EXHIBIT G

INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION

AMERICAN ARBITRATION ASSOCIATION

Bosch Automotive Service Solutions, Inc.,   Case No. 1-21-0016-2306

       Claimant,   Arbitrator Thomas W. Cranmer

v.

Collision Sciences, Inc.,

       Respondent.

RESPONDENT'S POST-HEARING BRIEF

I.   INTRODUCTION

This case is fundamentally about Claimant, Bosch Automotive Service Solutions, Inc.'s ("Bosch"), effort to manufacture a breach of contract claim where none exists. Over the last three years, Bosch has utterly failed to establish the elements of a viable breach of contract against Respondent, Collision Sciences, Inc. ("CSI"). Bosch has continually failed to provide sufficient support for its claims and admittedly cannot establish any form of damages whatsoever. Consequently, a ruling in CSI's favor is warranted.

II.   FACTS

A. BACKGROUND

CSI was formed by Jason Bayley ("Mr. Bayley") in 2015 for the purpose of making accident-specific collision data more accessible and aiding customers in the interpretation of such data. *See* Arbitration Hearing Transcript, **Exhibit A**, at 270:6-24 (Testimony of Mr. Bayley). CSI's business model involves three distinct components: the CrashScan application, its Amazon server

("AWS"), and the CDR Replay tool. *Id.* at 211:2-8 (Testimony of Mr. Hsu). The CrashScan application is a cloud-based diagnostic crash data retrieval solution, that delivers both "big data" and easy-to-read reports intended primarily for insurance adjusters. *Id.* As early as 2017, CSI was recognized as one of many companies "working on a solution whereby you hook a CDR[ ] kit up remotely to a vehicle OBD[ ] port via a wireless link." *See* September 12, 2017, email exchange between Brad Muir and Bill Rose, **Exhibit B**. This approach to data retrieval "is very attractive to insurance companies, as it is more cost-effective than multiple DLC[ ] kits." *Id.*

Bosch, on the other hand, has a business model drastically different than CSI. Bosch relies on CDR kits which must be physically connected directly to a vehicle, at substantial expense. *See* Arbitration Hearing Transcript, **Exhibit A**, at 34:12-19 (Testimony of Mr. Rose). By comparison, CSI's product is able to retrieve CDR data cost-effectively and charge a fee for technical consultation on data and presentation of a contextualized and user-friendly report. *Id.* at 275:11-17 (Testimony of Mr. Bayley). CSI's primary customers are insurance adjusters, while Bosch's main users are law enforcement and accident reconstructions. *Id.* at 280:2-4. Recognizing the opportunity for collaboration between the two companies, Mr. Bayley applied to the Invent with Bosch program in 2017. *Id.* at 228:13-19. However, Bosch declined to engage in such a collaboration.

B. CSI **D**EVELOPS **I**TS **C**RASH**S**CAN **T**OOL **Y**EARS **B**EFORE THE **2019 EULA A**T **I**SSUE**.**

Since its inception, CSI has continually worked to develop its own CDR tool. After establishing a working prototype in July of 2016, CSI's CDR Replay tool was complete in 2017. *Id.* at 216:18-20. Bosch's own expert, Jason HelfinSiegel ("Mr. HelfinSiegel") confirmed as much, stating in his expert report that the CrashScan application appeared to be successfully operational "from late 2017 onwards[.]" *See* HelfinSiegel Expert Report, **Exhibit C**, at ¶ 37. When Bosch

realized CSI had accomplished what Bosch could not, *i.e*., creating a remote-based crash scan tool, Bosch decided it needed to change the EULA to prohibit "reverse engineering". *See, e.g.*, June 9, 2019, email from Bill Rose to Andreas Huber, **Exhibit D** ("We updated EULA in 19.0 to ***begin*** to address this situation." (emphasis added)).

C. BOSCH FILES THIS ARBITRATION.

Over the years, Bosch grew to believe it was "insulated from competition by its agreements with manufacturers[.]" *See* February 18, 2020, email exchange between Rick Ruth and Bill Rose, **Exhibit E**. Meanwhile, Bosch ignored the increased pressure from its customers to utilize a web-based application. *See, e.g.*, September 10, 2020, email from Dr. Heinz Burg, **Exhibit F** ("We are looking to upgrade some of our CDR equipment however are worried that such is not feasible due to pricing[.]").

Although Bosch's tool does not remotely retrieve data, and although Bosch and CSI are not competitors, Bosch filed this arbitration in August of 2021. *See e.g.*, Bosch's Arbitration Demand. Over the course of this case, Bosch has had ample opportunity to gather data through virtually unfettered access to CSI's devices and electronic information systems. Consequently, CSI has produced hundreds of thousands of documents. Despite access to these documents and more than *three years* to develop its theories, Bosch was unable to provide factual support for *any* of its claims at arbitration. In fact, Bosch's own expert testified that ***the CrashScan application showed no indicia of copying and does not incorporate the Bosch Software***. *See* Arbitration Hearing Transcript, **Exhibit A**, at 171:6-13; 176:9-16.

To make matters worse, Bill Rose ("Mr. Rose"), Bosch's corporate representative openly admitted that Bosch has not lost a single dollar or customer due to CSI's alleged conduct. *Id.* at 111:16-112:4. In short, despite the benefit of extensive discovery Bosch's claims remain entirely

unsupported. Moreover, as explained in detail below, they are plagued by numerous factual and legal defects. Consequently, Bosch is not entitled to any recovery in this dispute.

III. ARGUMENT

A. BOSCH CANNOT ESTABLISH ANY BREACH OF THE EULA.

There are four purported breaches of the EULA at issue according to Bosch: (1) unlawful competition, (2) reverse engineering, (3) use of the software via remote transmission, and, as Bosch's apparent fallback, (4) derivative use. However, neither the factual record nor well-established law support any of Bosch's remaining theories. Bosch's claims are riddled with the kind of speculation and conclusory statements that plainly cannot form the basis of a viable breach of contract claim. Consequently, Bosch's claim should be dismissed.

1. The CrashScan Tool is Not Competitive With the Bosch CDR Tool.

Bosch cannot prevail on its claim that CSI engaged in unlawful competition for the simple reason that the CrashScan tool does not compete with the Bosch CDR tool. Courts have held that "two parties are in competition only where, after a 'careful analysis of each party's customers,' we determine that the parties are 'each directly after the same dollar.'" *Feesers, Inc. v. Michael Foods, Inc.*, 591 F.3d 191, 197 (3d Cir. 2010) (quoting *M.C. Mfg. Co. v. Tex. Foundries, Inc.*, 517 F.2d 1059, 1068 n. 20 (5th Cir.1975)); *see also* Black's Law Dictionary, 2nd Pocket Ed., at 119 (defining "competition" as "the effort or action of two or more commercial interests to obtain the same business from third parties." (emphasis added)). Moreover, courts have held that two products are not competitive if they have significantly different prices. *See FSI Int'l, Inc. v. Shumway*, No. CIV.02-402RHKSRN, 2002 WL 334409, at *8 (D. Minn. Feb. 26, 2002) ("The Court is not persuaded, based on the record before it, that the micro-lithography and surface conditioning equipment sold by Solid State and FSI are truly competitive. The price factor and the differences

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between the groups of customers who buy Solid State's equipment and FSI's equipment are significant[.]" To conclude otherwise would be illogical; as the court in FSI Int'l stated, "The Court finds FSI's arguments to be analogous to an assertion that, because all automobiles have an internal combustion engine and can be used to transport people and things, a Porsche and a Yugo are directly competitive vehicles." *Id.* at n.8. That is the case here as well. The Bosch tool and the CrashScan application both retrieve data but for drastically different customers, using drastically different methodologies, focusing on different sets of data, and at drastically different price points.

Moreover, Michigan courts have clarified that products or services are not competitive merely because they are somewhat related. *Aero-Motive Co. v. U.S. Aeromotive, Inc.*, 922 F. Supp. 29, 40 (W.D. Mich. 1996) ("this Court finds that the litigants' products and services are somewhat related, but not competitive."). In *Aero-Motive Co.*, the court held that while "the litigants' products are 'related' insofar as they both manufacture goods for automotive and aerospace companies and insofar as someone receiving a cold call could very well confuse the two companies and their products, there is no evidence that the companies compete with each other in any way." *Id.* It explained that "Plaintiff sells pre-made products while defendant sells component parts in accordance with customer specifications." *Id.* Importantly, it noted that "if the products were in direct competition, there is a good possibility that plaintiff would have been able to present evidence" of actual competition. *Id.*

The same is true here. The CrashScan tool is plainly not competitive with the Bosch CDR tool. Indeed, how could it be that CSI and Bosch are "each directly after the same dollar" when Bosch has repeatedly affirmed that it cannot point to a single dollar it has lost in over three years? *See Feesers Inc.*, 591 F.3d at 197. Similarly, the parties cannot be after the same group of customers when Bosch openly admits it has not lost a single customer or been harmed in any other

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way as a result of any alleged conduct by CSI. *See FSI Int'l*, 2002 WL 334409 at *8; *see also* Arbitration Hearing Transcript, **Exhibit A**, at 60:19 (Mr. Rose testifying that CSI's tool is equipped to support "a different customer"). Additionally, the price of the CrashScan tool is significantly different than the price of the CDR tool. *Id.*

Any issues Bosch has with the CrashScan tool boil down to the fact that the tools are arguably *related*, but not *competitive*. *See, e.g.*, *Aero-Motive Co.*, 922 F.Supp at 40. As Mr. Rose testified, the tools are, in fact, considerably different:

> I remember seeing this comparison and ***it wasn't apples to apples***, because the tool we sell is for accident reconstruction and they want to be able to download directly from the vehicle, because they're responsible for doing the accident reconstruction and it supports, you know, a myriad of vehicles. So it's kind of -- in this case, this is -- ***what they're offering isn't what the actual tool, what the CDR provides***.
>
> The CDR tool provides cables, it provides vehicle coverage, it provides technical support; the tools necessary to connect any vehicle that's listed in the file through direct to module download and through OBD, and that comes at a cost. Those are the -- the kit is sold in terms of what it takes to get a customer -- one of our customers a full kit, and the customers are asking for the full kit because they don't know who -- what crash they're going to be investigation; whereas this is $150, I'm assuming it's -- I'm assuming that's the Bluetooth dongle, but the CDR tool supports more; it supports FlexRay, Ethernet; whereas this one device is primarily just a can tool[.]
>
> <div align="center">***</div>
>
> And it only does direct-to-module download. Our customers need to be -- it only supports OBD downloads. Our customers need to do direct-to-module downloads as well. ***So it's a different customer***[.]

See Arbitration Hearing Transcript, **Exhibit A**, at 59:17-60:19 (emphasis added). While Bosch's CDR tool requires direct-to-module connection and Bosch does not assist users in interpreting Bosch reports, the CrashScan tool is cloud-based, and CSI provides extensive services to customers to aid in the interpretation of CSI's reports. *Id.* at 93:23-25; 272:23-274:13. The tools also have entirely different purposes and focus on different customer bases:

> So I think for a user who doesn't do crash reconstruction a lot, they may just want a tool that's you know -- from a purpose perspective -- let me start here instead.

I've described our tool is like getting a more limited set of data and can act as a preliminary look at the vehicle. So having an opportunity to get to a vehicle before -- like once it's salvaged and before it's sold and gone somewhere else, it's a great use case to just at least preserve the data. I think one of the best use cases of our tool is preserving data, at least the raw data from the modules.

Without our tool, it probably wouldn't be possible. But from the purpose of a user's perspective, I think that there's several types of users in the industry. So ***Bosch's main users are law enforcement and accident reconstructionists, but our main users are from an insurance focus***, and a lot of them just need to get a very quick look at a few data points to understand whether -- how to manage a claim and maybe triage it and whether to take it further, and ***quite often, they will refer it to an accident reconstructionist, and then that person will go out and use the Bosch tool***. So it really -- I think in some ways it's help -- our tool is helping the industry, because without it, certain accident reconstructionists wouldn't even get referred certain work. So we're like increasing the work available for crash reconstruction in the industry.

Id. at 279:12-280:15 (Testimony of Mr. Bayley) (emphasis added). Further, as the court in *Aero-Motive Co* opined, you would think that Bosch would be able to present evidence of actual competition if any did exist. *See Aero-Motive Co.*, 922 F.Supp at 40. But Bosch failed to present *any* such evidence. Consequently, neither the facts nor the law supports a conclusion that the CrashScan tool is competitive with Bosch's CDR Replay tool. Bosch's first theory of liability fails.

2. CSI Has Not Reverse Engineered the Bosch Software.

Bosch likewise failed to prove that CSI reverse engineered the Bosch CDR tool in breach of Section 2.3.1 of EULA 19. As a threshold matter, CSI's alleged conduct plainly does not involve the action prohibited within the express terms of the EULA. Section 2.3.1 prevents parties from reverse engineering "the source code or architectural framework of the Software." *See* EULA 19, **Exhibit G** at § 2.3.1. However, problematically for Bosch, CSI has taken no action involving either the source code or the architectural framework of the Software. Any reference CSI has made to the Bosch tool has been through comparison of vehicle manufacturer EDR data specifications. Under the plain language of the provision, CSI has not engaged in any impermissible conduct.

As the unilateral drafter of the EULA, Bosch clearly had the opportunity to define "reverse engineering." It failed to do so. The law now requires that the term be strictly construed against Bosch. Under such an interpretation, CSI's alleged conduct does not constitute "reverse engineering". In fact, Bosch's own expert not only confirmed as much, but he admitted that CSI's CrashScan application did not show any indicia of copying or incorporation of the Bosch Software. The record is clear that CSI has not reverse engineered the Bosch CDR tool in violation of the EULA.

a. The Definition of "Reverse Engineering" Must be Strictly Construed Against Bosch.

As the unilateral drafter of the EULA, Bosch may not now benefit from a favorable construction of a term it failed to define. It is black letter law that when contract terms are "subject to more than one interpretation, ambiguities are construed ***against the drafter*** of the language." *Marquette Gen. Hosp. v. Goodman Forest Indus.*, 315 F.3d 629, 632 n. 1 (6th Cir.2003) (emphasis added). Moreover, this rule "should be applied as the primary rule of construction, not as a last resort," in instances where an agreement "is drafted entirely by one party without bilateral negotiation." *Klapp v. United Ins. Grp. Agency, Inc.*, 468 Mich. 459, 483, 663 N.W.2d 447, 461 (2003); *see also SI Mgt. LP v. Wininger*, 707 A.2d 37, 43 (Del. 1998) ("ambiguous terms in the Agreement should be construed against the General Partner as the entity solely responsible for the articulation of those terms."); *Songcharoen v. Plastic & Hand Surgery Assocs., PLLC*, 561 F.App'x 327, 339 (5th Cir. 2014) (the doctrine "is based on the idea that the drafting party is likely to protect his own interest more than that of the other party"); *Aleynikov v. Goldman Sachs Group, Inc.*, 765 F.3d 350, 355 (3rd Cir. 2014) ("when one side of a contract was unilaterally responsible for the drafting, courts apply contra proferentem and construe ambiguous terms against the drafter.").

As Bosch acknowledged at numerous points throughout this arbitration, the term "reverse engineering" can have multiple meanings. *See, e.g.*, Arbitration Hearing Transcript, **Exhibit A**, at 105:21-106:1; 176:21-25 (Testimony of Mr. Rose; Testimony of Mr. HelfinSiegel). Some definitions apply to situations when the information gathered is used to create a new product, while others are satisfied by merely looking into how something works. *See* HelfinSiegel Expert Report, **Exhibit C** at ¶ 23. As Mr. Hsu testified, the CDR Replay tool was complete in 2017 and CrashScan was complete by 2018. *See* Arbitration Hearing Transcript, **Exhibit A**, at 213:5-17. CSI had a successful, operational product well before the prohibition against reverse engineering was introduced into the EULA in July of 2019.

Moreover, Bosch knew previous versions of the EULA did not address reverse engineering and it specifically updated EULA 19—a document it *unilaterally* drafted—to address the potential issue. *See* June 9, 2019, email from Bill Rose to Andreas Huber, **Exhibit D** ("We updated EULA in 19.0 to begin to address this situation."). As CSI had no negotiating power, Bosch had every opportunity to define "reverse engineering" in a manner extraordinarily favorable to its position. It failed to do so. In accordance with well-established law, the term should now be strictly construed against Bosch. *See, e.g.*, *Marquette Gen. Hosp.*, 315 F.3d at 632 n. 1. As a result, CSI having a complete product before July of 2019 and periodically using the Bosch CDR tool to intermittently update a product cannot constitute reverse engineering. *See, e.g.*, Arbitration Hearing Transcript, **Exhibit A**, at 208:17-18. Consequently, Bosch cannot prevail on its claim that CSI reverse engineered its CDR software in breach of the EULA.

b. Bosch's Own Expert Testimony Confirms That CSI Did Not Reverse Engineer the Bosch Software.

The testimony of Bosch's own expert further confirms that CSI did not reverse engineer the CDR software in breach of the EULA. Despite spending more than *230 hours* on the audit,

Mr. HelfinSiegel was unable to provide any evidence or conclusions to support Bosch's speculative allegations. *See, e.g.*, Invoices attached to Claimant's Hearing Exhibit 39. Indeed, as a computer forensics expert with more than 12 years of experience in the industry, Mr. HelfinSiegel confirmed that he "***did not find any indicia of copying*** of the source code." *See* Arbitration Hearing Transcript, **Exhibit A**, at 171:10-12 (emphasis added). He was later asked:

> Q: When you examined CSI's systems, it did not appear that Bosch's software had been broken down or disassembled or cracked in some way such that the source code could have been extracted, is that right?
>
> A: From the evidence I reviewed, that is correct.

Id. at 175:1-5. He further confirmed not only that CrashScan can be used without the Bosch CDR tool, but that CrashScan doesn't even *incorporate* the Bosch CDR tool. *Id.* at 176:9-20. Mr. HelfinSiegel was also asked about the definition of "reverse engineering," and he stated:

> Q: And based on the various definitions of reverse engineering, there are some where what you saw might constitute reverse engineering and others where it wouldn't, right?
>
> A: I would say that's correct.
>
> Q: You have no opinion one way or the or the other on that, do you?
>
> A: My opinion is that it could be considered reverse engineering and I'm trying to provide the information that would be helpful to the trier of fact.
>
> Q: It also could not be reverse engineering depending on what definition you used?
>
> A: I think that's correct.

Id. at 177:6-18. Mr. HelfinSiegel unequivocally confirmed that CSI has a product that does not incorporate the Bosch CDR tool, operates independently of it, and displays no indica of copying. Bosch's allegations therefore rest on mere insinuation in emails, sporadic use of the Bosch tool to confirm CrashScan's findings, and minor updates—passive conduct which on the scale of possible interpretations of the term "reverse engineering" is only a possible breach under an interpretation favorable to Bosch. And as discussed above, as the unilateral drafter of EULA 19, Bosch may not

now benefit from a favorable interpretation of a term it failed to define. Mr. HelfinSiegel's testimony underscores the conclusion that CSI has not reverse engineered its CDR software in breach of EULA 19.

c. Bosch Failed to Address Its Timing Problem.

Another pervasive issue that has plagued Bosch's reverse engineering theory throughout this case is timing. It is undisputed that EULA 19 was the first version of the EULA to introduce a prohibition against "reverse engineering." *Id.* at 102:21-103:21 (Testimony of Mr. Rose). Conduct prior to July 9, 2019, therefore cannot be used to establish an alleged breach of the provision prohibiting reverse engineering. But that is precisely what Bosch has continually attempted to do.

As was unequivocally established at arbitration, CSI had a fully operational product prior to July 9, 2019. *Id.* at 220:8-15 ("Regardless of what the exact date was, are you confident that [the tool] was finished before 2019?" Mr. Hsu responded, "Yes."). Bosch's own expert even reaffirmed this in his report when he stated that the CrashScan tool appeared to be successfully operational "from late 2017 onwards[.]" *See* HelfinSiegel Expert Report, **Exhibit C**, at ¶ 37. Consequently, even if Bosch could demonstrate "reverse engineering," that would have occurred well before the EULA was amended to prohibit reverse engineering in July of 2019. Since CSI's alleged reverse engineering would have happened at a time when the EULA did not prohibit reverse engineering, Bosch cannot establish a breach.

3. CSI Has Not Used the Bosch Tool in Breach of the Prohibition Against Remote Transmission.

CSI also has not improperly used the Bosch tool for remote transmission in breach of either Section 2.2.1 or 2.3.3 of EULA 19. Addressing each provision in turn, in relevant part, Section 2.2.1 of EULA 19 states:

> Connections to vehicles and or electronic control units (ECU) for the purposes of retrieving data must be done by directly connect[ing] the CDR tool to the vehicle or ECU using CDR tool cables and/or adaptors approved by Bosch. Any connections to a vehicle or ECU through additional hardware and software which is not part of the CDR tool is prohibited including, but not limited to, indirectly connecting the CDR tool through a wireless OBDII communications device, enabling remote connection to CDR tools over a server or internet server.

See EULA 19, **Exhibit G** at § 2.2.1. What this provision therefore requires is that if the Bosch tool is used to retrieve data, it must be done by directly connecting the tool to the vehicle or applicable ECU. However, ***CSI does not use the Bosch tool, directly or indirectly, to retrieve data***. Instead, CSI's CrashScan application and Amazon web server retrieve the data, and if a second opinion is ever needed the CDR Replay tool then submits the data directly into the Bosch tool to generate a Bosch report. *See* Arbitration Hearing Transcript, **Exhibit A**, at 236:22-25 (Testimony of Mr. Bayley). In such situations, the Bosch tool is directly connected to the CDR Replay tool, which is connected to a bundle of cables arranged to simulate a vehicle network. *Id.* at 180:21-24. This is neither direct, indirect, nor remote use of the Bosch tool to retrieve data from a vehicle or ECU.

The second applicable provision, Section 2.3.3, provides that, for the duration of the subscription term, CSI shall not:

> Unless otherwise agreed in writing by Bosch, use the Software as server software for making the Software available for multiple users (simultaneous use) over a network, install it on a server and allow users to access to the Software remotely for the purpose of multi-user access, or install the software on a device for use only by remote users.

See EULA 19, **Exhibit G** at § 2.3.3. Bosch's allegations with respect to this provision are fundamentally flawed for the simple reason that operation of the CDR Replay tool does not involve remote use of the Bosch Software. As Mr. Hsu testified at the hearing, when the Bosch tool is referenced for a second opinion, it is operated through direct connection to his laptop. *See* Arbitration Hearing Transcript, **Exhibit A**, at 213:7-13. CSI does not use the Bosch Software via

remote transmission, much less provide it to any of its customers. Bosch utterly failed to establish

a breach of either of these provisions.

4. The CrashScan App is Not a Derivative Work.

Bosch's reliance on the "derivative works" clause of the EULA is similarly unavailing. The

CrashScan tool cannot be a "derivative work" because it is not a market substitute for the Bosch

CDR tool. *See Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 593 (1994) (finding that a new

product was not an impermissible derivative work when the work was not a "market substitution"

for the original). Bosch cannot conceivably claim the CrashScan tool is a market substitute for the

CDR tool when it has openly and repeatedly admitted that it cannot point to a single lost dollar or

customer.

Another telling sign that the CrashScan tool is not a derivative work is its ability to operate

independent of the Bosch tool. *See Quinn v. City of Detroit*, 23 F.Supp.2d 741, 747 (E.D. Mich.

1998) (finding it persuasive that a software program was a derivative work where it could not

function without an underlying program). As both Mr. Hsu and Bosch's expert testified at the

hearing, the CrashScan application can operate at a fully functional level without the Bosch CDR

tool. *See* Arbitration Hearing Transcript, **Exhibit A**, at 176:13-16; 214:4-8.

The absence of any demonstrable loss by Bosch or any underlying dependence on the

Bosch tool for CrashScan's operability not only proves that the CrashScan tool is not a market

substitute, but also that CSI and Bosch are operating in different markets entirely. The tools plainly

neither target the same customers nor provide the same data. Mr. Bayley's testimony confirmed

as much:

> There's a lot of extra OEM data that we don't provide. So ***our tool wouldn't be a
> substitute*** for a number of things. It wouldn't be used by the OEMs; it wouldn't be
> used -- like we talked about yesterday about the NHTSA regulation and TSA
> regulation that requires a tool be in market. Our tool isn't designed to be the official
> regulatory tool, so it's not a substitute for that.

Generally, ***our tool is not a substitute*** for a lot of accident reconstruction experts or police who require that tool.

Id. at 277:18-278:1 (emphasis added). Moreover, as Mr. Hsu explained, there is no threat of market substitution or competition because the tools "complement each other." *Id.* at 214:22-23. A complimentary product that has caused no loss whatsoever to Bosch cannot possibly be considered a market substitute for the CDR tool. Consequently, the CrashScan tool is not an impermissible derivative work in breach of the EULA.

B. BOSCH HAS NO DAMAGES

While there are countless weaknesses in Bosch's case, the most unavoidable is its lack of damages. The law is well-settled that the absence of damages defeats a plaintiff's claim for breach of contract. *Van Buren Charter Twp. v. Visteon Corp.*, 319 Mich. App. 538, 554, 904 N.W.2d 192 (2017); *see also Home Ins. Co. v. Com. & Indus. Sec. Servs., Inc.*, 57 Mich. App. 143, 147, 225 N.W.2d 716 (1974) ("uncertainty as to the fact of the amount of damage caused by the breach of contract is fatal"). Damages which are "conjectural or speculative in nature," exactly the kind Bosch asserts here, are insufficient under Michigan law. *Doe v. Henry Ford Health Sys.*, 308 Mich. App. 592, 602, 865 N.W.2d 915 (2014).

Although Bosch has attempted to evade the topic of damages throughout the majority of this dispute, one fact became blatantly clear at the hearing: Bosch cannot point to a single dollar or customer it has lost as a result of CSI's purported conduct. While Bosch has previously tried to work around this deficiency by claiming damages in the form of lost profits, it evidently realized the futility of such a theory and abandoned it at the hearing. *See* Arbitration Hearing Transcript, **Exhibit A**, at 111:16-19 ("Bosch is not claiming lost profits here, right?" to which Mr. Rose responded, "No, we're not."). Bosch's sole remaining theory of "damages" therefore seeks reimbursement for the cost of the audit.

However, the right to reimbursement is not as automatic as Bosch has suggested. Section

10.1 of EULA 19 provides:

> If Vendor discovers unauthorized use, reproduction, distribution, or other
> exploitation of the Software, You shall reimburse Bosch for the reasonable cost of
> the audit, or of the next audit in the case of discovery without an audit, in addition
> to such other rights and remedies as Bosch may have.

See EULA 19 **Exhibit G** at § 10.1. Consequently, Bosch is only entitled to reasonable

reimbursement *if* Mr. HelfinSiegel concluded there was unauthorized use of the Software, *i.e.*, a

breach of the EULA. At the hearing, Mr. HelfinSiegel was asked directly about his conclusions

from the audit:

> Q: Although you didn't spend as much time analyzing how CrashScan works, you
> were able to determine that it does not incorporate the Bosch CDR tool, correct?
>
> A: ***That was the purpose of the initial audit.***
>
> Q: And CrashScan can be used without the Bosch CDR tool, can't it?
>
> A: CrashScan can be used without the Bosch CDR-Replay tool.

See Arbitration Hearing Transcript, **Exhibit A**, at 176:9-16 (emphasis added). The entire purpose

behind the audit was to determine if the CrashScan application incorporated the Bosch CDR tool,

and an expert in the field unequivocally testified that it did not. Mr. HelfinSiegel also testified that

the CrashScan application showed no indicia of copying the Bosch software and that CSI's conduct

would not rise to the level of reverse engineering under some definitions of the term. *Id.* at 171:6-

13; 177:6-10. Mr. HelfinSiegel therefore did not discover any conduct which would justify

imposing the cost of the audit on CSI.[1]

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[1] In the event that the Arbitrator disagrees with CSI's position and decides to impose costs from the audit, the audit invoices should be assessed to evaluate the reasonableness of the fees in accordance with Section 10.1 of EULA 19. Mr. HelfinSiegel's invoices list numerous entries for "calls with counsel" amounting to thousands of dollars incurred throughout the process. *See* Claimant's Arbitration Hearing Exhibit 39. Countless calls with counsel do not seem reasonably necessary for completion of the audit; instead, they appear indicative of Bosch's efforts to use expert insight to develop its case and later force CSI to bear the cost.

The simple fact of the matter is clear: Bosch has no damages. Thus, its breach of contract claim fails as a matter of law. *Home Ins. Co. v. Com. & Indus. Sec. Servs., Inc.*, 57 Mich. App. At 147.

C. BOSCH IS NOT ENTITLED TO INJUNCTIVE RELIEF

Nor is Bosch entitled to injunctive relief, which is an extraordinary remedy. *Monsanto Co. v. Geertson Seed Farms*, 561 U.S. 139, 165 (2010). According to well-established principles of equity, a party seeking a permanent injunction must satisfy a four-factor test. *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006). A plaintiff must demonstrate: (1) that it has suffered irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction. *Id.* "An injunction is a drastic and extraordinary remedy," *Monsanto Co.*, 561 U.S. at 165, and it should be granted only where "essential in order to effectually protect property rights against injuries otherwise irremediable[.]" *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 312 (1982) (quoting *Cavanaugh v. Looney*, 248 U.S. 453, 456 (1919)).

Bosch is not entitled to injunctive relief. As a threshold matter, Bosch has failed to present evidence of *any* harm, much less *irreparable* harm. The speculative and conclusory evidence offered by Bosch, considered in conjunction with its delay in seeking injunctive relief for over *three years*, falls far short of the high bar required for the extraordinary remedy of injunctive relief.

1. Bosch Cannot Establish Irreparable Harm.

"While irreparable harm is only one of the four factors courts must consider in determining whether to grant injunctions, the Supreme Court has made clear that, regardless of the other factors, '[t]he equitable remedy [of an injunction] is unavailable absent a showing of irreparable injury.'" *SAS Inst., Inc. v. World Programming Ltd.*, 874 F.3d 370, 385 (4th Cir. 2017) (quoting *City of Los*

Angeles v. Lyons, 461 U.S. 95, 111 (1983)); *see also U.S. v. Miami University*, 294 F.3d 797, 816 (6th Cir. 2002) ("a party must demonstrate that failure to issue the injunction is likely to result in irreparable harm."). A party seeking injunctive relief must not only show that irreparable harm is *possible*, but that "irreparable injury is *likely* in the absence of an injunction." *Winter v. Natural Res. Def. Council, Inc.*, 555 U.S. 7, 22 (2008) (emphasis in original). Moreover, the moving party "must show that irreparable harm is 'both certain and immediate, rather than speculative or theoretical.'" *Wise Man Brewing, LLC v. Three Bridges Distillery & Taproom*, LLC, 599 F. Supp. 3d 586, 592 (E.D. Mich. 2022) (quoting *Mich. Coal. of Radioactive Material Users, Inc. v. Griepentrog*, 945 F.2d 150, 154 (6th Cir. 1991)). "Although this inquiry involves balancing multiple factors, 'the *existence* of an irreparable injury is mandatory.'" *Id.* (quoting *Ohio v. Becerra*, No. 21-4235, 2022 WL 413680, at *2 (6th Cir. Feb. 8, 2022) (emphasis in original)).

Bosch has not proffered a single piece of evidence to show that *irreparable* harm is even *possible*, much less *likely*. In its Brief in Response to CSI's Motion for Summary Judgment and in its Pre-Hearing Brief, Bosch alleged it has suffered irreparable injury by way of a threat to its competitive advantage, the loss of market share, reputation, and the erosion of the exclusivity of its technology. *See* Bosch's Response to CSI's Motion for Summary Judgment; Bosch's Pre-Hearing Brief. It also claims that a provision in the EULA indicating that Bosch could obtain a permanent injunction supports granting such relief. *See* EULA 19, **Exhibit G** at § 8.1.

As a preliminary matter, the presence of "a contractual provision does not alter the court's obligation to analyze whether the party seeking an injunction has proven irreparable harm." *Nexteer Auto. Corp. v. Korea Delphi Auto. Sys. Corp.*, No. 13-CV-15189, 2014 WL 562264, at *9 (E.D. Mich. Feb. 13, 2014); *see also Baker's Aid, a Division of M. Raubvogel Co. v. Hussmann Foodservice Co.*, 830 F.2d 13, 16 (2d Cir.1987) ("contractual language declaring money damages

inadequate in the event of a breach does not control the question whether preliminary injunctive relief is appropriate"). Thus, Bosch's reliance on the EULA is misplaced.

Moreover, merely *stating* alleged categories of harm that *could* rise to the level of irreparable harm does not relieve Bosch of the burden of proving—by clear and convincing evidence—that such harm is both imminent and likely. *CPM Acquisition Corp. v. Easterday*, No. 1:24-CV-605, 2024 WL 3648076, at *8 (W.D. Mich. Aug. 5, 2024) (citing *Patio Enclosures, Inc. v. Herbst*, 39 F. App'x 964, 969 (6th Cir. 2002)). Bosch's only forms of "evidence" were riddled with the type of speculation that courts consistently reject. *See, e.g.*, *Hammel v. Speaker of House of Representatives*, 297 Mich. App. 641, 651, 825 N.W.2d 616 (2012) ("It is well settled that an injunction will not lie upon the mere apprehension of future injury or where the threatened injury is speculative or conjectural.").

Instead of presenting legitimate evidence of *any* form of harm, Bosch offered conjecture on what supposedly *could* happen at some point in the future. When Mr. Rose, Bosch's corporate representative, was asked what concerns he had about CSI's product being in the market, he stated, "one of my main concerns is that *if* they're either reverse engineering or making assumptions, that that *could* cause bad will on the CDR tool[.]" *See* Arbitration Hearing Transcript, **Exhibit A**, at 70:7-14 (emphasis added). Mr. Rose admitted that has not happened. *Id.* at 113:19-22. Mr. Rose even admitted that Bosch could not identify a single dollar or customer lost because of CSI. *Id.* at 111:16-112:4. How could Bosch's competitive advantage or reputation be *irreparably harmed* if after three years it cannot point to a single metric showing any form of harm whatsoever? *See, e.g.*, *CPM Acquisition Corp.*, 2024 WL 3648076 at *10 (declining to issue an injunction when "the Court is left to speculate as to how precisely [Plaintiff's] customer goodwill and competitive position will be harmed."); *see also Cheetah Miner USA, Inc. v. 19200 Glendale, LLC*, No. 23-

1410, 2023 WL 6601863, at *2 (6th Cir. Oct. 10, 2023) ("the burden remains on the movant to show more than a speculative risk to its reputation").

Along the same lines, Bosch failed to present any evidence of harm to its market share or the exclusivity of its product. In fact, Bosch presented evidence showing the opposite. Mr. Rose testified about the extensive differences between the parties' respective products:

> I remember seeing this comparison and *it wasn't apples to apples*, because the tool we sell is for accident reconstruction and they want to be able to download directly from the vehicle, because they're responsible for doing the accident reconstruction and it supports, you know, a myriad of vehicles. So it's kind of -- in this case, this is -- *what they're offering isn't what the actual tool, what the CDR provides*.

> The CDR tool provides cables, it provides vehicle coverage, it provides technical support; the tools necessary to connect any vehicle that's listed in the file through direct to module download and through OBD, and that comes at a cost. Those are the -- the kit is sold in terms of what it takes to get a customer -- one of our customers a full kit, and the customers are asking for the full kit because they don't know who -- what crash they're going to be investigation; whereas this is $150, I'm assuming it's -- I'm assuming that's the Bluetooth dongle, but the CDR tool supports more; it supports FlexRay, Ethernet; whereas this one device is primarily just a can tool[.]

<p style="text-align:center">***</p>

> And it only does direct-to-module download. Our customers need to be -- it only supports OBD downloads. Our customers need to do direct-to-module downloads as well. *So it's a different customer*[.]

See Arbitration Hearing Transcript, **Exhibit A**, at 59:17-60:19 (emphasis added).

Mr. Bayley also emphasized these differences, explaining that CSI's product does not have the same capabilities, does not offer the same data points, and sells to a different customer base. *Id.* at 277:1-278:20. Bosch is at no risk of losing the exclusivity of its tool to a product that functions, operates, and markets to an entirely different pool of customers. Bosch even admitted that it does not have *any evidence* that CSI has affected Bosch's market position in any way. *Id.* at 113:19-22.

In addition, and as perhaps the clearest example that it has not suffered irreparable harm, Bosch failed to seek injunctive relief in this dispute for *over three years*. This alone is a strong

indicator that Bosch has not suffered harm of any sort, let alone irreparable harm sufficient to justify the drastic and extraordinary remedy of a permanent injunction. *See, e.g.*, *Allied Erecting & Dismantling Co., Inc. v. Genesis Equip. & Mfg., Inc.*, 511 F. App'x 398, 405 (6th Cir. 2013) ("[A]n unreasonable delay in filing for injunctive relief will weight against a finding of irreparable harm"); *Nexteer Auto. Corp. v. Korea Delphi Auto. Sys. Corp.* No. 13-CV-15189, 2014 WL 562264, at *9 (E.D. Mich. Feb. 13, 2014) ("Nexteer's delay of over one-year prior to seeking injunctive relief weighs against a finding of irreparable harm."); *Blue-Grace Logistics LLC v. Fahey*, 340 F.R.D. 460, 470 (M.D. Fla. 2022) ("Delay in seeking an injunction militates against a finding of irreparable harm."); *Kiva Health Brands LLC v. Kiva Brands Inc.*, 402 F. Supp. 3d 877, 897 (N.D. Cal. 2019) ("[L]ong delay before seeking a preliminary injunction implies a lack of urgency and irreparable harm."); *Myo, LLC v. Brull & York, LLC*, 1:18-CV-370-RP, 2019 WL 136820, at *8 n.8 (W.D. Tex. Jan. 8, 2019) (stating that six-month delay in seeking injunctive relief after filing complaint "dramatically undermines a claim that Plaintiff is at risk of irreparable harm absent injunctive relief"). The prolonged delay alone in this case weighs heavily against a finding of irreparable harm. That delay considered together with the absence of *any* harm, establishes that Bosch cannot establish a likelihood of irreparable harm. Its request for injunctive relief should be denied accordingly.

2. The Adequacy of Remedies Factor Weighs Against Injunctive Relief.

Bosch similarly cannot establish that available remedies at law are inadequate to compensate for its alleged—and admittedly nonexistent—injury. As explained above, Bosch's "evidence" of injury is simply speculation, which courts consistently reject as insufficient for injunctive relief. *See, e.g.*, *Hammel*, 297 Mich. App. at 651 ("It is well settled that an injunction will not lie upon the mere apprehension of future injury or where the threatened injury is

speculative or conjectural."). The only even potentially plausible injury Bosch alleges—which CSI disputes Bosch is entitled to—is the cost of the audit. It is well settled that "[i]f the injury complained of may be compensated by an award of monetary damages, then an adequate remedy at law exists" and a party may not receive injunctive relief. *Cellnet Communications, Inc. v. New Par*, 291 F.Supp.2d 565, 570 (E.D.Mich.2003) (citing *Jerome–Duncan, Inc. v. Auto–By–Tel, L.L.C.*, 966 F.Supp. 540, 541 (E.D.Mich.1997)). Accordingly, because Bosch could be adequately compensated by way of monetary damages in the event that it could establish a viable breach, this factor also weighs against an injunction.

3. The Balancing of Hardships Factor Favors CSI.

The balance of hardships in this case also militates against an injunction. As the Supreme Court has clarified, courts must consider "the balance of hardships between the plaintiff and defendant" in evaluating whether a remedy in equity is warranted. *eBay*, 547 U.S. at 391. The appropriate analysis requires the court to "assess the relative effect of granting or denying an injunction on the parties." *Apple Inc. v. Samsung Elecs. Co.*, 809 F.3d 633, 645 (Fed. Cir. 2015) (citing *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 862 (Fed. Cir. 2010), *aff'd*, 564 U.S. 91 (2011)).

CSI's CrashScan tool is the heart and soul of its business. Consequently, an injunction against CSI's use of its CrashScan tool would be ruinous. *See* Arbitration Hearing Transcript, **Exhibit A**, at 276:1-2 (Testimony of Mr. Bayley). In contrast, Bosch is an industry giant that, after having more than three years to attempt to collect evidence, has failed to—and admittedly cannot—present evidence of *any* harm. Even if Bosch could present evidence of harm in the absence of an injunction—which it decidedly cannot—such harm would pale in comparison to the

devastating impact an injunction would have on CSI and its business. Bosch has admitted that its CDR tool only comprises about 5% of its overall revenue.

The substantial difference in the impact an injunction would have on the parties demonstrates that the third factor weighs strongly against injunctive relief. Bosch is an industry leader that cannot establish it would face any harm in the absence of an injunction; CSI, on the other hand, is a small company that may *cease to exist* in the event of an injunction. *See SAS Inst., Inc. v. World Programming Ltd.*, 874 F.3d 370, 387–88 (4th Cir. 2017) (declining to grant injunctive relief to "the world's largest privately held software company" when "granting the requested injunction would likely be ruinous" to the non-moving small company). There is no balance of hardship when one party stands to lose nothing while the other stands to lose everything.

4. <u>The Public Interest Does Not Favor Injunctive Relief.</u>

The final factor likewise weighs against injunctive relief. "In exercising their sound discretion, courts of equity should pay particular regard for the public consequences in employing the extraordinary remedy of injunction." *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 312 (1982). "The public interest inquiry primarily addresses impact on non-parties rather than parties." *League of Wilderness Defs./Blue Mountains Biodiversity Project v. Connaughton*, 752 F.3d 755, 766 (9th Cir. 2014).   Direct impact on innocent third-party customers frequently grounds courts' denials of injunctions. *SAS Inst., Inc.*, 874 F.3d at 388; *Hispanic Affairs Project v. Perez*, 141 F.Supp.3d 60, 74 (D.D.C. 2015) *Fractus, S.A. v. Samsung Elecs. Co., Ltd.*, 876 F.Supp.2d 802, 854 (E.D. Tex. 2012); *Machlett Laboratories, Inc. v. Techny Industries, Inc.*, 665 F.2d 795, 798 (7th Cir. 1981). "Preventing fraud is also in the public's interest." *Gov't Emps. Ins. Co. v. Barakat*, 709 F.Supp. 3d 93, 104 (E.D.N.Y. 2024).

As Mr. Bayley testified at the hearing, "one of [CSI's] main focuses is to help reduce insurance fraud, and without us, that would not be possible." *See* Arbitration Hearing Transcript, **Exhibit A**, at 272:17-22. He also explained that CSI's tool "is helping the industry, because without it, certain accident reconstructionist wouldn't even get referred certain work," the tool is "increasing the work available for crash reconstruction in the industry." *Id.* at 280:11-15. Not only is preventing fraud in the public interest, *Gov't Emps. Ins. Co.*, 709 F.Supp at 104, but the public interest weighs against the destruction of job opportunities. *See, e.g.*, *Connors v. Shannopin Min. Co.*, 675 F. Supp. 986 (W.D. Pa. 1987); *W. Sur. Co. v. Futurenet Grp., Inc.*, No. 16-CV-11055, 2016 WL 3180188, at *9 (E.D. Mich. June 8, 2016); *Huron Mountain Club v. U.S. Army Corps of Engineers*, No. 2:12-CV-197, 2012 WL 3060146, at *15 (W.D. Mich. July 25, 2012), *aff'd*, 545 F. App'x 390 (6th Cir. 2013).

Moreover, the public interest is against forcing customers "to expend significant time and money to replace their existing systems[.]" *SAS Inst., Inc.*, 874 F.3d at 388. CSI's CrashScan tool is a unique, one-of-a-kind product that addresses a gap in the market that is not covered by other products. *See* Arbitration Hearing Transcript, **Exhibit A**, at 270:25-271:6. CSI's growing customer base—which, again, differs significantly from Bosch's customer base—would be significantly harmed by an injunction depriving them of CSI's unique and cost-friendly solution. To find "broad, abstract rule of law concerns" are sufficient to defeat "concrete harms to innocent third parties, the public interest factor would weigh in favor of an injunction nearly every case" and courts are unwilling to apply this application that would, in effect, "render this factor meaningless." *SAS Inst., Inc.*, 874 F.3d at 388. Accordingly, the public interest factor weighs against an injunction.

IV. <u>CONCLUSION</u>

Bosch has comprehensively failed to meet its burden of proof. It admittedly cannot prove a breach of contract, and even if it could, it has failed to present a single piece of evidence showing that it has been damaged. For these reasons, CSI respectfully requests an award in its favor.

Respectfully submitted,

Varnum LLP
Attorneys for Respondent Collision Sciences, Inc.

Dated: November 8, 2024   By: /s/*Timothy P. Monsma*
                                            Timothy P. Monsma
                                            Bridgewater Place, P.O. Box 352
                                            Grand Rapids, MI 49501-0352
                                            (616) 336-6000
                                            tpmonsma@varnumlaw.com

Exhibit A

AMERICAN ARBITRATION ASSOCIATION

INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION

COMMERCIAL ARBITRATION RULES

BOSCH AUTOMOTIVE SERVICE

SOLUTIONS, INC.,

          Claimant,

             vs.   Case No. 01-21-0016-2306

                        Arbitrator Thomas W. Cranmer

COLLISION SCIENCES, INC.,

          Respondent.

_____

     ARBITRATION HEARING

     Taken at 150 W. Jefferson Avenue, #2500,

     Detroit, Michigan

     Commencing at 9:10 a.m.,

     Monday, September 9, 2024,

     Before Jenifer Weisman, CSR-6006.

1   APPEARANCES:

2

3   STEVEN McMAHON ZELLER

4   DIEGO FREIRE

5   CARRIE A. HAZEL

6   Dykema Gossett, PLLC

7   10 S. Wacker Drive

8   Suite 2300

9   Chicago, Illinois 60606

10   312.876.1700

11   szeller@dykema.com

12   dfreire@dykema.com

13   chazel@dykema.com

14   Appearing on behalf of the Claimant.

15

16   ADAM WIENNER

17   Robert Bosch, LLC

18   38000 Hills Tech Drive

19   Farmington Hills, Michigan 48331

20   248.876.6641

21   adam.wienner@us.bosch.com

22   Appearing on behalf of the Claimant.

23

24

25

1   TIMOTHY P. MONSMA

2   HANNAH A. CONE

3   Varnum, LLP

4   333 Bridge Street NW

5   Suite 1700

6   Grand Rapids, Michigan 49501

7   616.336.6000

8   tpmonsma@varnumlaw.com

9   hacone@varnumlaw.com

10   Appearing on behalf of the Respondent.

11

12   THOMAS W. CRANMER - ARBITRATOR

13   Miller Canfield Paddock & Stone, PLC

14   840 W. Long Lake Road

15   Suite 150

16   Troy, Michigan 48098

17   248.267.3381

18   cranmer@millercanfield.com

19

20   ALSO PRESENT:

21   Jason Bayley

22   Brian Hsu

23   Joshua HelfinSiegal

24

25

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WILLIAM ROSE

JOSHUA HELFINSIEGEL

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EXHIBITS

</div>

(Exhibits attached to the transcript.)

1   Monday, September 9, 2024

2   9:10 a.m.

3

4   THE ARBITRATOR: Good morning and welcome

5   to everyone. My name is Tom Cranmer and I have the

6   privilege of being the arbitrator in this case.

7   I'll start by saying, as you probably know,

8   the lawyers worked very hard on this case already. I

9   know a fair amount about the case as a result of what

10   we call motion practice and some of the things that

11   have been brought to my attention before, so I think

12   I've got a pretty good running start on the case. And

13   I also had the benefit of seeing both sides, what we

14   call, prehearing briefs; where they set out what the

15   issues are to be decided in the arbitration and what

16   they think the proofs or the evidence is going to

17   show, so that was also extremely helpful.

18   Before we get going, let's talk just a

19   little bit about some preliminary matters. I

20   understand the lawyers have chatted with each other a

21   little bit, which is always helpful.

22   Steve or Tim, do you want to tell me about

23   what you've agreed upon and we can kind of set the

24   ground rules in that sense?

25   MR. ZELLER: We've agreed there's no

1   openings and we will not do oral closings.

2   THE ARBITRATOR: Okay. But there will be

3   post-hearing?

4   MR. ZELLER: Post-hearing. I think on

5   timing, we were looking at probably 45 days at least,

6   depending on what the transcripts go.

7   THE ARBITRATOR: Sure.

8   MR. MONSMA: When we talked, I think we

9   talked about maybe not doing responses. Thinking on

10   it more, I think they will be helpful, but I'll defer

11   to you, Tom.

12   THE ARBITRATOR: Let's see how it goes at

13   the end. We'll figure that out and see if that makes

14   some sense.

15   MR. MONSMA: But I generally agree with all

16   of that.

17   THE ARBITRATOR: All right. I also

18   understand that, for the most part, the exhibits that

19   are being offered are offered without objection, is

20   that fair?

21   MR. MONSMA: Yeah. I mean, if we have a

22   hearsay objection or something, I'll make it, but for

23   the most part we agreed to be pretty informal, I

24   think.

25   THE ARBITRATOR: Very good. If there is

1   something though that you think is inappropriate,

2   please raise it and we'll deal with it as we go.

3   MR. ZELLER: Yes. I don't think there's

4   any authentication issues.

5   THE ARBITRATOR: Good. Anything else we

6   need to talk about or tackle before we get started?

7   MR. MONSMA: Not on our end.

8   MR. ZELLER: No.

9   THE ARBITRATOR: Okay. Steve, go ahead and

10   call your first witness.

11   MR. ZELLER: We'd like to call Bill Rose.

12   WILLIAM ROSE,

13   was thereupon called as a witness herein, and after

14   having first been duly sworn to testify to the truth,

15   the whole truth and nothing but the truth, was

16   examined and testified as follows:

17   EXAMINATION

18   BY MR. ZELLER:

19   Q.   Good morning, Mr. Rose. Can you state your full name.

20   A.   William Rose.

21   Q.   Who do you work for?

22   A.   I work for Bosch; Bosch Automotive Service Solutions.

23   Q.   How long have you worked for Bosch?

24   A.   I've worked for Bosch since 2003.

25   Q.   What is your title?

1	A.	Product manager, global product manager.
2	Q.	How long have you had that title, global product
3		manager?
4	A.	For about 24 years, roughly.
5	Q.	What are your responsibilities at Bosch?
6	A.	My responsibilities are I'm responsible for the
7		product, Crash Data Retrieval. My responsibility
8		includes managing the product line from hardware and
9		software, the certifications for the product, the part
10		numbers, everything from stem to stern with regards to
11		the product configuration and distribution, and
12		high-level definition of the product.
13	Q.	How long have you been involved with the CDR tool?
14	A.	Since 2005, so 19 years.
15	Q.	I think you said you've been project manager about
16		that same time, so --
17	A.	Yeah, so I was doing project management and product
18		management early on, and I became a product manager
19		and left the project management other
20		responsibilities.
21	Q.	Do you have any degrees?
22	A.	I have an associate's in electronics, electronic
23		engineering.
24	Q.	When did you get that?
25	A.	1991, I think is when I graduated.

1 Q. Where is that degree from?

2 A. DeVry Institute of Technology.

3 Q. Have you been employed anywhere else since becoming --

4   since you got your degree at DeVry?

5 A. Yes. I worked for a company called Advanced

6   Electronic Diagnostics back in Phoenix. I went --

7   moved to Vetronix Corporation in Santa Barbara, and

8   then became -- there was a brief stint away from

9   automotive for about two years for a telecom company,

10   project manager. I returned to Bosch in 20 -- I'm

11   sorry, 2002, and then I've been -- actually, I

12   returned to Vetronix Corporation, and then Bosch

13   bought out Vetronix Corporation in 2003, and I've

14   basically been a Bosch employee since 2003.

15 Q. So I want to talk about the CDR tool, and the best way

16   is if you can turn to Exhibit 6 in your binder. Do

17   recognize Exhibit 6?

18 A. Yes.

19 Q. Tell me what is it.

20 A. That's a presentation for our internal customers as

21   well as our OEM customers, to give an overview of the

22   CDR product line, how we manage OEM agreements, and

23   gives an overview of the product line.

24 Q. Did you prepare this?

25 A. Yes.

1 Q.   And there's a date of October 2019, is that --

2 A.   Yes.

3 Q.   -- when it was prepared?

4 A.   Yes.

5 Q.   Let's look through it and as this -- tell us about the

6   CDR tool. What is the first page?

7 A.   The first page is kind of a timeline of how things

8   started.

9 Q.   Can you give us the history of the Bosch CDR tool?

10 A.   Yes. The CDR tool started in 1999 when I worked for

11   Vetronix Corporation. I wasn't involved then. It was

12   a project that was started in 1999. The first release

13   of the product was in 2000. And then in 2003, as I

14   mentioned before, it was a -- Vetronix was acquired by

15   Bosch, so Bosch took over the product line at that

16   time.

17 Q.   So let's stop. Going back to '99, how did Vetronix

18   become involved with the CDR tool?

19 A.   Vetronix was the -- developed the dealership tool,

20   scan tool they call it, which connects to the vehicle

21   and performs diagnostics, and they had a relationship

22   with GM. They developed the dealer tool for General

23   Motors, and GM sent out an RFQ after years of working

24   with Vetronix and it went out to bid for a crash data

25   retrieval tool to retrieve data that's stored in

1   airbag control modules.

2   What they wanted is they didn't want to use

3   their dealer tool, so they wanted to create a special

4   tool that could be used by their internal

5   investigators. And so Vetronix quoted -- responded to

6   the RFQ and basically said in exchange for license

7   agreement, to allow Vetronix to sell the tool to law

8   enforcement and accident reconstructionists; that

9   Vetronix would basically waive any fees in exchange

10   for the license agreement. And that's kind of how it

11   started, and we've been working with General Motors

12   since then, since '99 and before, obviously, for the

13   scan tools.

14 Q. What does it mean that they waived fees?

15 A. So the OEMs, they charge companies to get access to

16   their data for diagnostic tools and such, and they

17   were charging Bosch for the independent aftermarket

18   for the scan tool, they were charging us for getting

19   access to the data, and the crash data, because it was

20   a specialized data and confidential to the rest of the

21   world, basically we needed to get a license between us

22   and Vetronix and GM so that we can -- whatever specs

23   they gave us, we can include the intellectual property

24   into the product itself, and we could sell it to law

25   enforcement and other entities.

1 Q. Just to clarify, I think you said that Vetronix would

2   waive fees?

3 A. No, OEMs would. They wouldn't charge us for the data

4   that they were giving us.

5 Q. So on the RFQ, was Vetronix looking to be paid for --

6 A. No.

7 Q. -- the tool?

8 A. No.

9 Q. Why not?

10 A. Because the business model was -- and this was before

11   the CDR tool or the motion -- notion of crash data

12   became popular, the CEO of the company wanted to make

13   it available to accident reconstructionists, because a

14   lot of the electronic controls, they don't leave skid

15   marks in crashes and stuff, so it was just another

16   tool to provide to a new market.

17   So the idea was that we would sell the tool

18   into the accident reconstruction business and

19   eventually sell to insurance companies and other

20   potential customers in lieu of getting a license for

21   their data. So the business case, we would make money

22   off of the tool when we sell it to our customers.

23 Q. Let's go back to the history using Exhibit 6 on page

24   2. I think you went through Bosch buying Vetronix,

25   and then what else happened in the history?

1   A.   So we started -- the project manager back then started

2   discussions with Ford and Chrysler, to also support

3   their vehicles. Because the EDR data was part of the

4   function of the actual module mainly for diagnostic

5   purposes for the OEMs to make sure that the data is

6   correct and -- that they're deploying bags and stuff

7   in accordance with the specs. So a lot of OEMs stored

8   crash data in their modules. So we started engaging

9   with Ford and Chrysler, but what was -- in 2006, NHTSA

10   sent out an NPRM to all the OEMs basically --

11 Q.   No, you're fine. Go ahead. I do want to stop you

12   though. You said NPRM?

13 A.   It's Notice of Public -- I forget the acronym.

14 Q.   Rule Making?

15 A.   Yes.

16 Q.   Okay.

17 A.   Then the OEMs chime in on what it would cost to do

18   this and whether it's feasible and all that, and the

19   target for the release of that was September 12th,

20   2012.

21 Q.   Okay.

22 A.   So the OEMs are aware of this, so they're starting to

23   look for a possible solution, and the requirement was

24   that they needed to make the data available in a

25   commercially available tool.

1   THE ARBITRATOR: Steve, let me interrupt

2   you. It looks like we're spending a lot of time on

3   Exhibit 6. For some reason, I don't have that. Do we

4   have another exhibit book?

5   MR. ZELLER: You can take this one.

6   THE ARBITRATOR: Thank you. Go ahead.

7 A. So the OEMs were looking for a solution for a

8   commercially available tool, and Vetronix thought that

9   was a good fit for Ford and Chrysler, and we started

10   inquiring -- they started inquiring about our tool and

11   what we can support and stuff.

12   So we signed an agreement with Ford in 2005

13   and started supporting their vehicles in the CDR tool

14   in, gosh, roughly -- about 2005, 2006. Then we

15   engaged with Chrysler; that was a long discussion and

16   negotiations, and again, we carried over the model in

17   exchange for an agreement, a license agreement, for

18   the data and the specs they provide us, that we would

19   implement it and make it available to them

20   commercially as well as to the OEMs. And so we agreed

21   for, basically, Chrysler and Ford, same with Honda,

22   Toyota, and Mazda. So these companies started calling

23   and asking, inquiring about the tool.

24   I was main interface technically and from

25   business-wise. So in 2010 -- or 2007 we signed an

1   agreement with Chrysler, and we released the product

2   shortly thereafter, like 2008.

3   And then in 2010, we started -- we had

4   landed an agreement with Honda; again, to support all

5   of their vehicles from 2012 and newer so they can meet

6   this requirement. And then Toyota, the same way, as

7   well as Mazda and Nissan. And these are all

8   agreements that in exchange for the license agreement,

9   that we can sell the tool and make enough money on the

10 tool to pay for the development and its continued

11 development, and we'll go over that later. But this

12 is our commitment to the OEMs; that we would do it at

13 no charge in exchange for the license agreement.

14   And so Suzuki, we also engaged Suzuki, as

15 well as BMW and Volvo and Daimler, and then the other

16 German OEMs kind of followed after that.

17   So we basically covered about 98 percent of

18 the vehicles sold in the U.S. with our CDR tool, and

19 one of the benefits was that, you know, it's the same

20 use case, the same functionality for all OEMs, same

21 reports, very similar reports so that the users don't

22 have to relearn how to use a tool for the next OEM.

23 BY MR. ZELLER:

24 Q. Exhibit 6, page 2 says now 17-plus OEMs supported.

25   That's what it was in October of 2019, right?

1   A.   Yes.

2   Q.   Is that -- what is the number now?

3   A.   I think it's 25 or 26. The challenge with that is

4   Stellantis bought a bunch of companies, so that

5   technically can be one OEM, but they bought a lot of

6   brands like Citroen and Peugeot and Chrysler, and

7   such --

8   Q.   Yes.

9   A.   -- and Fiat. It's about 26 OEMs and climbing.

10   Q.   So why don't we talk about what the tool is. Go to

11   the next page.

12   A.   Okay. So briefly, the term CDR was coined by the CEO

13   of Vetronix, crash data retrieval, and it's not a tool

14   that -- it doesn't go in the vehicle; it's not a

15   device that goes in. It basically connects to the

16   vehicle to retrieve data that's stored in their airbag

17   control modules that is considered crash data, or now

18   they call it event data recorder, EDR data. It's used

19   to retrieve, again, data that's stored in the vehicle

20   and consists of a PC application, personal computer

21   application, a Windows app.

22   Vehicle interface module, so the interface

23   module contains various protocols that it communicates

24   with -- it's able to communicate to vehicles; very

25   specific technology, so there's a lot of protocols

1   that it supports. And then the idea here, and we can

2   talk about this later, the vehicle connects through

3   the vehicle's OBD port. So we have an OBD connection

4   to the actual vehicle, as well as the OEMs needed --

5   because crashes aren't real nice and neat, so a lot of

6   times they lose power during a crash and so we had to

7   create a cable for every airbag control module that

8   the OEMs support. This was part of the agreement. We

9   were going to create the software, the hardware, and

10   the necessary cables to do the complete download. If

11   the car was crashed, then we had to connect directly

12   to the module. If you can imagine, there's a lot of

13   vehicles out there with a lot of cables. So we create

14   cables that our customers purchase. And there's --

15   then there's potential adapters that as you get into

16   communicating with vehicles, there's different

17   protocols and stuff that we have to support that

18   aren't supported typically on a diagnostic tool.

19 Q. That's a great segue. There's a reference there to

20   not being a diagnostic scan tool. What is a

21   diagnostic scan tool and what's the difference?

22 A. Well, a diagnostic scan tool is used by technicians to

23   troubleshoot vehicles. If there is -- if a vehicle

24   triggers a trouble code, they use that to see what the

25   trouble code is and what the OEM says is wrong with

1   the vehicle, as well as to look at data in real time

2   while they're doing the diagnosis. You know, that's a

3   pretty standard tool since like the late '80s.

4   This is not a scan tool, because its

5   purpose was designed to retrieve crash data

6   specifically. Now, it uses a lot of the scan tool

7   capabilities like the protocols that are built in to

8   support our other diagnostic tool needs, but we --

9   there is a use case where we have to create a piece of

10   hardware that allows it to connect directly to a

11   module, and without getting into a lot of details,

12   that's a little problematic because there's an inrush

13   of current when you charge -- when you connect to an

14   airbag module, so the point is it's specific to crash

15   data retrieval.

16 Q. So the next page, can you tell us what the tool

17   actually does?

18 A. So it basically connects to the vehicle to retrieve

19   crash data, and it's not like a data logger like a

20   black box in an airplane, because that records

21   everything all the time; whereas, the EDR data is --

22   starts recording based on the deployment of any

23   passive restraint device, like an airbag module or a

24   pretensioner. So the data will start recording if

25   anything is deployed. The system says to deploy an

1 airbag or pretensioner; it will record -- it will take

2 five seconds of data prior to the crash and then

3 information at the crash, and up to 300 milliseconds

4 after the crash, and stores that in the data. So

5 that's what the CDR tool basically was originally

6 designed to do.

7   However, the OEMs have other data, like

8 Ford stored data in their powertrain control module,

9 the engine control module, so we connected to their --

10 Ford's powertrain control modules and retrieved data

11 from them, as well as roll-over sensors from GM. So

12 the OEMs would give us their specs and, again, we did

13 it in exchange for an agreement to sell the tool.

14   The whole idea in the business case is that

15 we're getting enough revenue on the sales of the tool

16 to pay for the development. Then also protection,

17 protection modules and there's new modules, active

18 safety control modules, camera modules, ADAS modules,

19 antonymous driving --

20 Q. That's a good segue into the next page, which is the

21   data. I think you covered most of it of what's --

22   what's retrieved is by the tool, right?

23 A. Yes. So again, it retrieves the data that's stored in

24   the EDR on the airbag control modules. So this was

25   the original use case for the tool, was to retrieve

1   the EDR data, as well as the OEM said, hey, we've got

2   these active safety modules for automatic emergency

3   braking systems and other things that actually record

4   crash data also, but it also records data that's not

5   just crash data but of certain events. So we work

6   with the OEMs to support many of the modules for GM,

7   their active safety modules; those aren't considered

8   in the traditional sense of EDR, but they are

9   event-based, if, you know, there's emergency braking

10   or whatever, it will record data. And the CDR tool

11   would be used by an accident reconstructionist to go

12   and retrieve active safety data as well as the airbag

13   control module data.

14   And then the ADAS data, that's obviously

15   the autonomous driving vehicles. They have various

16   levels. A level 4 being the most autonomous. And

17   we've been asked, and are continuously asked, to

18   support the readout of ADAS data. And so that's the

19   kind of the data we retrieve and translate into a

20   report and display it to our customers.

21 Q. We talked a little bit about the regulations, and go

22   to the next page and tell me what this is and what the

23   different columns are?

24 A. Okay. So the different columns are examples of the

25   data that's stored. So for the NHTSA requirement,

1   CFR49563 --

2   Q.   Sorry, go back to the requirement. I know that you

3   said before that NHTSA came out with rule making. Can

4   you explain a little bit more about what the

5   requirement is and who has directed that?

6   A.   Okay. So the regulation is directed to any vehicles

7   built and sold in -- sold, not built, that are sold

8   into the U.S. market, and it requires them to -- if

9   any of the vehicles store any crash data, and they

10   define crash data like prior to an event, if there's

11   any of those data elements stored, the OEM is required

12   to store -- to basically provide a commercially

13   available tool to where the first column defines the

14   minimum data set that those vehicles need to support

15   within 90 days of the vehicle being released to the

16   market.

17   The second column is the if recorded

18   column. So if that data, for example, roll-over data,

19   if that's recorded, then they have to display it. If

20   it's not recorded, the OEMs aren't mandatory --

21   mandated to support roll-over data, for example. But

22   if they do store it, so steering angle and engine RPM

23   and such, then they have to report it in the

24   commercially available tool.

25   The third column is where -- it's just an

1   example of additional data elements that the OEMs ask

2   us to support, and the OEMs also use it for their

3   internal investigations, so they wanted to add

4   additional data elements to the CDR report when we

5   retrieve crash data, and they decide, you know, which

6   additional data elements -- that's also a big

7   discussion with the OEMs. And so a lot of times we,

8   you know -- the first column is probably one page of

9   the report or two pages of the report. We have up to,

10   you know, 160, 200-page reports on lot of these OEMs

11   as far as the data they wanted reported.

12   In the green circle -- the square, that

13   indicates the pre-crash data; that's data that's

14   stored up to five seconds prior to the deployment of

15   the device. So it will report vehicle speed, engine

16   throttle and such, as well as, if it's reported,

17   steering input, and that would be pretty valuable

18   information to an accident reconstruction, as well as

19   the OEMs, if they're litigating any product issues or

20   what have you.

21 Q. Just so I fully understand, the first column is if any

22   of that is recorded, all of it has to be reported --

23 A. Yes.

24 Q. -- right?

25 A. Yes.

1   Q.   And it is on the OEM to make sure that there's a tool

2   that can do that --

3   A.   Yes.

4   Q.   -- right?

5   A.   Yes. Hence, the license agreement and have them

6   choose a supplier to support their need to meet this

7   regulation.

8   Q.   You mentioned active safety and if you go to the next

9   page, you can tell us what the different types of data

10   for active safety is being recorded.

11 A.   So unlike the CDR -- or the EDR data, this actually

12   triggers -- the event is triggered by a potential

13   event where the ECU has to respond to a forward

14   collision mitigation or emergency braking, and that's

15   the trigger for the event. And the active safety

16   module that controls all this -- the main controller

17   for all these functions also stores data such as this

18   in a format that's a time-series-based format, and

19   they'll store some number of times before the trigger

20   and after for this type of data, so vehicle odometer,

21   GPS lat/long, vehicle speed, yaw rate. I mean, so

22   this is just some of the parameters. Since 2019, it's

23   definitely probably tripled in size as far as what we

24   support.

25 Q.   So just so I understand, some of these items might

1   occur without a crash --

2 A. Yes.

3 Q. -- is that what you're saying?

4 A. Yes.

5 Q. For example, autonomous braking -- automatic --

6 A. Emergency braking, yes; forward collision, lane

7   keeping assist, those kind of things.

8 Q. Has the new -- or as additional data comes on, has it

9   changed Bosch's relationship via contracts with the

10   OEMs?

11 A. Currently not. In exchange for the agreement, we

12   don't charge them any additional fee to add support to

13   additional modules; that's all on Bosch; develop

14   testing, interfacing to the OEMs, helping them with

15   specs.

16 Q. And the reports that you're doing with vehicles with

17   the active safety, they're not limited to who they go

18   to, is that correct?

19 A. No, they're not. Basically whoever buys the CDR tool

20   kit and pays the annual software subscription, they

21   get any new content that's added every year, any new

22   ECU coverage, any new data elements, any changes; that

23   gets passed along to our customers.

24 Q. I want to ask you to go through the relationship with

25   OEMs and how you built the tool.

1   A.   Okay.

2   Q.   And you can use the next page as a help as you go

3   through that.

4   A.   Okay. So we've got 25 or over brands that we support.

5   Actually, more brands than that obviously; the OEMs.

6   It's kind of a complicated relationship because the

7   OEMs are trying to meet a regulation in order to

8   support this. Also, the OEMs, in a lot of cases, they

9   want to add additional ability for accident

10   investigators to do their own investigation rather

11   than pulling the OEM involved in terms of any kind of

12   litigation.

13   So the OEMs come to us and the ones that we

14   work with today, they provide us a specification and

15   we review that spec and provide feedback to them, and

16   they refine the spec and then they hand it over to our

17   engineering development team. Our engineering

18   development team basically implements that

19   specification in the CDR tool. And the idea is to

20   kind of keep it common across other OEMs so that the

21   reports and use cases are the same.

22   So we get a spec and we review it, and then

23   we hand it off to the development team. And during

24   the development time, a lot of times these are new

25   systems and they're not very mature, so there's a lot

1   of back and forth with Bosch and the OEMs to refine

2   the specifications so that the OEM is happy with what

3   they see and the OEM will basically review what we

4   implement, and they will tell us whether it meets the

5   requirements or not, and then the Bosch team, once the

6   OEM is satisfied with an implementation -- and this is

7   for every ECU we support -- then we go in and we will

8   -- our test team will test the spec and they will test

9   all the possible values, you know; they formulate

10   values, the enumerated values. So in other words,

11   you'd have a data element that may have 20

12   different -- 30 different possible developments based

13   on the data that's returned, and our team tests all

14   that.

15   The OEM will test, they'll do spot-checking

16   just to make sure it meets the requirements, but they

17   trust Bosch, because Bosch is a 9001 -- ISO-9001

18   certified in term of, you know, meeting requirements

19   for ISO certification, you know, anything from getting

20   requirements from the OEMs, doing testing and stuff.

21   So the OEMs -- and that's part of our agreement too, a

22   lot of the OEMs require an ISO certification.

23   So our team will go and test before we

24   release the software. So the OEMs, we send them test

25   versions, and they do their own internal testing, and

1   a lot of times the specs are changed, you know, during

2   this whole development process. They say oh, yeah, we

3   made a mistake, this -- whatever. So we'll make the

4   changes, implement it, test it, and send it back to

5   the OEMs. This is kind of an iterative process. A

6   lot of times they have to send us ECUs so we can

7   confirm the implementation, and then our test team

8   basically goes and tests all the aspects of the

9   software; every data element, every value, every

10   formula, and then we release it to the field.

11 Q. Can we talk about the timeframe that it takes to do

12   the process that you were just talking about in going

13   back and forth?

14 A. Well, it depends on, one, whether or not we support an

15   OEM that's asking us to implement the solution. If

16   it's an existing OEM and it's based -- we already have

17   a relationship on how to deal with and how to

18   distribute software and address bugs and all that kind

19   of stuff, that probably takes -- a new system may take

20   three to four months, and that's, you know, with us

21   already knowing how the OEM works and the specs they

22   give us and it's in the format we specify. But if

23   it's a new OEM, we're starting all over, and that

24   takes anywhere from six to eight months to do a new

25   system. And then there's also variance; the OEMs will

1   provide and say, hey, this is the same as system X

2   except for these ten data elements and, oh, by the

3   way, we have to implement new exception logic for

4   certain data elements.

5   So the exceptions are the tricks, right,

6   it's the -- they combine multiple data that they get

7   from the vehicle and you build basically a formula

8   based on the behavior of the data, and so we pull

9   multiple data elements together to make one data

10   element, and the OEMs specify that and that takes a

11   lot more work. So it just really depends on how many

12   exceptions we have to implement. But typically, a

13   variant may take anywhere from a month to three

14   months.

15   Q.   When we looked at what the CDR tool is, there were a

16   bunch of cables.

17   A.   Uh-huh.

18   Q.   Who's responsible for the cables?

19   A.   Bosch is responsible to build them, to do the tooling,

20   to stock them in inventory worldwide, and make them

21   available commercially.

22   Q.   Where does that fit in the timeline?

23   A.   That goes in parallel. So the first thing we do is

24   figure out whether there's a cable requirement. If

25   there's a cable required, we start working on the

1   cable. The OEMs will give us basically the

2   communication part, the electrical information to say

3   which pins are connected and such, and then we take

4   that from there. They'll give us some sample parts

5   and stuff, and then we do the drawings, we pay for the

6   tooling, and we do all the product management to

7   manage 125-plus cables, and then also as those cables

8   start to get older, we have to phase those out, and

9   it's just an ongoing thing.

10 Q. What decides that the tool is finished for that

11   vehicle; what's the process for finishing it, I guess?

12 A. So first of all, we get acceptance by the OEM about

13   the implementation based on the specifications they

14   provided us. And the OEM does their own testing apart

15   from us on -- so a lot of times they're doing crash

16   testing prior to the vehicle. So they use the test

17   versions to test it out to make sure that the data is

18   being reported as per the specification, or if they

19   have to make a change, they'll feed that back into the

20   development stream for changes, and once they're

21   satisfied with that and they meet their certification

22   date, then they will tell us, okay, you guys can

23   release the software.

24   In the meantime, we're testing that

25   software kind of in parallel, so when they do say

1 release it, then we're able to release it in a coming

2 release.

3 Q. Okay.

4 A. Which there's roughly four to six software releases

5 every year that include, you know, at least one of the

6 OEMs vehicle coverage; it's multiple, you know, we'll

7 release BMW or Volkswagon, and it just depends on what

8 their alignment is in terms of the timing schedule.

9 Q. On average, how many new systems does Bosch

10 incorporate into the software each year?

11 A. Probably about 20.

12 Q. And what do you mean by systems?

13 A. Let's say they have a new airbag module, so we kind of

14 have to start from scratch. Now, a lot of times some

15 of the software in their ECUs will carry over, but the

16 OEMs are constantly trying to meet regulations, so

17 they're constantly updating their EDR. So they'll

18 give us a new system and they'll send us an ECU, and

19 we start doing development on it, and again, the

20 process starts over. So nothing stays still in this

21 industry.

22 Q. And you mentioned variance; how many of those a year?

23 A. I don't know, probably 15 or so.

24 Q. Roughly, how many cables a year do you have to make?

25 A. Anywhere -- well, during the pandemic we were slow in

1   releasing cables, but now it's picked back up;

2   anywhere from four to ten cables a year.

3 Q. Do you know what the annual budget is for this tool?

4 A. Yes. So back in 2019 it was about 1.1 million for

5   development, and that was to support the CDR tool in

6   our existing software platform for all the supported

7   OEMs, so about 1.1 million. So that was a mix of U.S.

8   employees and Bosch India employees as well. Now it's

9   probably closer to 1.5 to -- just depending on how

10   many systems we have. It could be up to 2 million,

11   but typically about 1.6, 1.7 million for content, to

12   add new content.

13 Q. What do you mean by content?

14 A. Support for any new vehicles rather than adding new

15   features and functions; this is to keep the vehicle

16   supported for the supported brands.

17 Q. We're going to come back to this, but I wanted to ask

18   you about releases for a version of software and what

19   it entails, and you can give us that by looking at

20   Exhibit 9. Can you tell me what Exhibit 9 is?

21 A. That's just a summary of a given -- so we do these

22   four to six releases a year, and every release we send

23   out information for our customers to let them know

24   what vehicle coverage we added in that particular

25   release. This doesn't define all the changes. This

1   defines, roughly, those more higher levels that are

2   probably pertinent to our customers and the vehicle

3   coverage. The coverage is key. So this lists mainly

4   the vehicles we cover and any other more important

5   changes in the actual product.

6 Q. When you say the coverage, this is new vehicles being

7   covered?

8 A. Yes, new vehicle coverage, correct. We produce one of

9   these every release. Actually, every release except

10   for a patch release. A patch is just we're addressing

11   a very specific small issue.

12 Q. So the exhibit before this is very large and it looks

13   like a list of vehicles; Exhibit 8.

14 A. Okay. So this is the coverage list we put on our

15   website in terms of what vehicles are supported, and

16   it's in a PDF. I don't know how many pages.

17 Q. And each version of the software would have a separate

18   list like this?

19 A. Each major release. So usually three to four times a

20   year, we'll update this document.

21 Q. So this would include -- we saw two different

22   versions, but this version is 19.4. So this would

23   include the vehicles that were listed on a new vehicle

24   list for 19.4 too, right?

25 A. Yes, as well. It goes all the way back to 1994

1   General Motors coverage.

2 Q. We can go back to 6. We were on 6, page 6 before.

3 A. Okay.

4 Q. We can move forward from there. We can continue

5   talking about -- so what is the next page?

6 A. This is just to give an idea what brands we support.

7   And obviously, there's a lot more brands since 2019

8   that we've added. But this lists basically the brands

9   and their associated vehicle models are basically

10   assumed here. So General Motors vehicles include, you

11   know, GM vehicles, Chevrolet, Buick, Cadillac --

12 Q. Sure.

13 A. -- and Pontiac and Oldsmobile back in the day; same

14   with Honda and Acura.

15 Q. You can keep moving forward. The coverage, I think

16   you mentioned before how many vehicles are actually

17   covered by the tool?

18 A. Yeah, in North America back in -- actually, I think

19   this was 2018 data. The total vehicle population was

20   about 297 million vehicles, and the CDR covered 162

21   million of those vehicles, which equates to about 55

22   percent coverage of all the registered vehicles on the

23   road.

24 Q. And that number increases every year because of the

25   aging?

1   A.   Right. Vehicles get taken out of service, get

2   replaced with new vehicles, so the coverage increases.

3   Q.   I think you had a slide here on how it works and you

4   talked about before, so can you refresh again since we

5   have some pictures on how to describe it?

6   A.   Okay. So we support basically two use cases. There's

7   the case where the vehicle is intact and we can

8   retrieve by connecting to the on-board diagnostic

9   table. It's earlier in the -- prior to OBD, they

10   called it DLC, data link connector, and that's the

11   main connector that you plug in your scan tools.

12   So the CDR tool would support the read-out

13   for the majority of the vehicles through the OBD

14   connector. In the case of an event where the crash is

15   bad enough where, you know, there's no more electrical

16   connections, we have to connect directly to a module,

17   and that's called a direct-to-module connection;

18   that's why we have all these cables and adaptors and

19   such.

20 Q.   What is the output of the software, which is the next

21   page?

22 A.   Okay. Basically, it's a report. The report is very

23   specific to, you know -- it has to be printed. So

24   we've been producing CDR reports so they can fit on a

25   letter size paper; that's one of the main

1   requirements. And so when people go to court, they

2   want to print out the CDR report. So what we did was

3   we display this on the screen, what it looks like when

4   it's printed, and the report sections are pretty

5   common across all the OEMs; we try to keep that up.

6   Some OEMs insist on calling sections differently, but,

7   in general, they're pretty much the same. We have

8   this report section, CDR information block, then

9   there's a data limitation section, which basically

10   tells the OEM author that, and they explain any issues

11   that are known about that particular CDR report or

12   that particular ECU, and they will update these data

13   limitations regularly, because, you know, they might

14   find something that there's an error or we add new

15   functionality or whatever; these data limitations are

16   key to investigators -- for them to understand

17   potential anomalies that are reported in the report.

18   So that's where the OEMs keep that information. Bosch

19   doesn't offer those; the OEMs do, and they give us a

20   file and a format and then we publish those whenever

21   they're updated.

22   Anyway, the reports are up to -- I think

23   our latest Mercedes is like 1,300 pages -- no, 3,000

24   pages, but we can export data on that for our

25   customers to do analysis.

1 Q.   How is the Bosch tool sold?

2 A.   So there's two methods of selling: One is we sell to

3   a distributor, and the distributor has the

4   relationships with the customers and they'll basically

5   deploy the software -- they'll sell the tool to the

6   customer, the software and the hardware. And then we

7   also sell it direct to Bosch -- from Bosch. So in

8   North America we sell direct to Bosch for our OEM

9   customers. So we don't -- unless in cases where they

10   need something quick that our distributor has that we

11   don't, then we'll defer them to that, but we basically

12   sell directly to OEMs in North America.

13   In Europe, we have a distributor as well,

14   and it's a very similar situation, although they'll

15   actually sell directly to OEMs. In other parts of the

16   world, Japan, they sell direct as well as through a

17   distributor; Korea, same, they'll sell direct or

18   through a distributor; and Australia, they sell

19   direct; and China, they sell to a distributor.

20 Q.   What's the price range for what is sold? If you want

21   to go to the next page.

22 A.   Okay. So the main kit -- and I'm trying to not cause

23   a lot of confusion. So the main kit, which included

24   two VCIs, and there was a legacy VCI and the new CRD

25   900 VCI, vehicle communication interface, that sold

1   for $5,800. And with that, basically you can download

2   all the vehicles directly through the OBD connector

3   with a couple of exceptions when they buy that kit,

4   and then additionally they'll pay a $1,200 annual

5   software subscription.

6   So the base kit includes the VCI, the

7   connectors, the power supply, everything for a user to

8   be able to do a download direct to vehicle, and then

9   they'll buy additional cables. So a lot of law

10   enforcement will buy every cable that we make because

11   they can't predict whether they're going to a crash

12   and whether it's an OBD download or direct deposit.

13   And the software subscription, we sell one

14   subscription for North America; we have one for

15   Europe; we have one for China and APAC, and every one

16   of those include everything we support in the CDR

17   tool; all manufacturers that are sold or made

18   available to their industry; whatever's supported is

19   in the CDR. We don't update -- we don't change the

20   price when we add a new OEM. We have periodic price

21   increases every couple years, but the idea is that if

22   the customer buys an annual subscription; whatever we

23   release, they get worldwide.

24   Q.   We've talked about the different use cases and there

25   is a slide on the next one, and we'll go over those.

1 A. So, you know, it's used for reconstruction of vehicle

2   accidents; to find out -- for a lot of things: One is

3   for law enforcement to figure out causation, and for

4   OEMs and other independent accident investigators, it

5   could be a wide range of reasons why they're doing an

6   investigation; anything from a product liability

7   situation or they have been hired by an attorney to do

8   an accident investigation and such.

9   Also, it's used by insurance companies for

10   fraud detection; that's our main use right now with

11   the insurance companies, is to detect fraud; to see --

12   they will send out an investigator to determine, one,

13   that their insured is being honest and then they will

14   do a download, and the -- if there's any red flags or

15   something, the person from the insurance company will

16   flag that. Bosch never sees any of these reports;

17   it's just used as a tool and the insurance company

18   owns that data and those reports. And then vehicle

19   safety research, so NHTSA is one of our big customers

20   and they do a lot of crash investigations for product

21   liability issues or potential vehicle safety issues.

22   And then the OEMs, the OEMs use it; one, to test

23   real-world crash data to see, because they do crash

24   tests, but it doesn't encompass all of the potential

25   issues, so the OEMs actually will deploy a team that

1   will go and investigate certain crashes and feed that

2   information back to their product development team,

3   and also they use them to defend product litigation.

4 Q. Who is Bosch's main customers in North America; what

5   type? You can go to the next slide.

6 A. So the main customers right now is law enforcement,

7   independent accident investigators, insurance

8   companies, fleet owners, the OEM themselves, and

9   government agencies, TSB, and NHTSA.

10 Q. And then how is that broken down?

11 A. Basically, by now -- right now it's mainly law

12   enforcement; that's our largest customer base; then

13   the private sector, accident reconstruction is next;

14   insurance is coming up; and then others are like

15   fleets and other possible use cases.

16 Q. So this was 2019?

17 A. Yes.

18 Q. Is it any different since 2019?

19 A. I think maybe the insurance business is picking up a

20   little bit, but not as much as we expected. It's

21   still probably this priority in terms of our customer

22   saturation.

23 Q. In 2019, what did Bosch think was going to drive the

24   market?

25 A. Well, the insurance business was picking up, and then

1   COVID hit and that dried up a little bit, and it's

2   starting to come back. So we think that potential

3   insurance cases are possible; it's still a

4   possibility.

5 Q. We can move to the next slide.

6 A. So the market drivers, again, are the initial

7   regulation CFR49 part 553 which was released in

8   September of 2012, any new regions. So for example,

9   China released their requirement in 2020; Korea in

10   2015; Europe 2022; Japan, I don't know exactly what's

11   going on there, but it's kind of a pseudo regulation.

12   They have a relationship with the OEMs, the government

13   does, and it's kind of like an honor system within

14   Japan as far as I know.

15   And then the other driver is the active

16   safety systems and ADAS technology, that's a big

17   driver now. We're getting a lot of -- it's not a good

18   business case at this point, because there's very

19   little amounts of vehicles on the road that have an

20   ADAS or a level four driving, but eventually that's

21   where technology is going.

22   And insurance fraud detection; who hit whom

23   first, the OEMs -- the insurance companies do a lot of

24   that, to figure out dispute claims.

25 Q. In 2019 -- you can go to the next page -- what

1   insurance companies were customers?

2 A. So all of these that are listed. Geico was our

3   biggest insurer, Progressive was coming up, Allstate,

4   USAA, Liberty Mutual was a good customer, still are,

5   Farmers, I don't think there's a lot of activity.

6   There's also another one, that's Fred Loya, it's an

7   insurance company as well; and American Family, we had

8   one subscription with them and they haven't renewed in

9   the last year.

10 Q. So the top of this says that in '19 there was

11   approximately 300 kits --

12 A. Yes.

13 Q. -- is that what that means?

14 A. 300 subscriptions.

15 Q. And is that number -- what is that number now?

16 A. There is about 200 Geico customers. The next one down

17   is Fred Loyal is 100, and then there's Liberty Mutual,

18   which is like 39, and there's Travelers Insurance,

19   which is like, roughly, I think, 25, and then there's

20   Farmers -- I'm sorry, State Farm, I think there's one,

21   and there's a couple other small ones; so it's about

22   389 subscriptions today.

23 Q. So it has increased?

24 A. Yes.

25 Q. Okay. The next slide is use cases, which I think you

1   already talked about.

2   Go to the next page. Who is Crash Data

3   Group?

4   A.   They're our distributor. They've been with us, gosh,

5   back when we first started selling the CDR tool.

6   They're based out of Temecula.

7   Q.   By distributor, that means other than OEMs in North

8   America; that's where you would have to get your

9   subscription?

10 A.   Yes. And they also sell other kits like Tesla and

11   Kia, Hyundai; they do their own kits.

12 Q.   That's a good segue into who else makes crash data

13   retrievals from -- with the OEMs?

14 A.   JLR, Jaguar Land Rover.

15 Q.   Do they make their own?

16 A.   Soon they probably won't, but they do -- they have

17   their method for retrieving data and giving our

18   customers what the -- what is expected in a CDR

19   report, but they provide their own method for doing

20   that. I think they download the data with their

21   dealer tool and send the data to JLR, and they create

22   a report and send it back to the customer.

23 Q.   And you mentioned Tesla. Does Tesla --

24 A.   Tesla is kind of unique because they want to do

25   everything inhouse, so we started working with them

1   and they decided to do their own. But Scott Baker

2   basically sells the hardware that enables the customer

3   to retrieve the data, and then the customer signs on

4   to a Tesla website and it gives them the report.

5   Q.   And you mentioned Hyundai and Kia.

6   A.   They have their own tool. It's a dealer tool and they

7   sell the kits through Crash Data Group as well.

8   MR. ZELLER: How often do you want to take

9   breaks?

10   THE ARBITRATOR: Maybe every hour and a

11   half or so, if that works. But if people need a break

12   before that, or if our reporter does, just let me

13   know.

14   BY MR. ZELLER:

15   Q.   You talked about the software subscriptions being one

16   year, is that right?

17   A.   Yes.

18   Q.   And it has to be renewed every year?

19   A.   Yes.

20   Q.   Are the subscriptions covered by a license agreement?

21   A.   The agreement is in the EULA, end user license

22   agreement.

23   MR. ZELLER: I'm going to show a

24   demonstrative, if that's okay.

25   THE ARBITRATOR: Sure.

1   MR. ZELLER: Let's mark it Demo 1.

2   MARKED FOR IDENTIFICATION:

3   DEPOSITION EXHIBIT DEMO 1

4   10:19 a.m.

5   BY MR. ZELLER:

6   Q.   Can you tell us what this is?

7   A.   So the releases are in the left column; basically,

8   those are the public releases. The middle is

9   basically the date that that was released on the Bosch

10   website. And the EULA version is basically the

11   version of the EULA at that given release.

12   Q.   You verified all these dates, is that accurate?

13   A.   Yes.

14   Q.   So I want you to look at Exhibits 3, 4, 5 in your

15   binder. Can you tell me what those exhibits are?

16   A.   Those are crash data invoices for Collision Sciences.

17   Q.   Specific for what?

18   A.   For the software license agreement; software licenses.

19   Q.   When did Collision Sciences purchase their licenses?

20   A.   According on this --

21   MR. MONSMA: I'm going to object to the

22   foundation.

23   MR. ZELLER: Okay.

24   THE ARBITRATOR: Overruled. Go ahead.

25   A.   So October 27, 2015 was their first license purchase

1   through Crash Data Group.

2   BY MR. ZELLER:

3   Q.   I'll stop you. Where did you come about these

4   invoices?

5   A.   I asked Crash Data Group to provide us the invoices

6   from Collision Sciences.

7   Q.   So the second one you said?

8   A.   That was January 26 -- I'm sorry, no -- yeah, January

9   26th.

10   Q.   What year?

11   A.   2018.

12   Q.   Okay. And the third, Exhibit 5?

13   A.   That was July 9th, 2019.

14   Q.   Based on the demonstrative, can you determine what

15   EULAs were applicable to these licenses?

16   A.   Yes. So the 3.8 to 17.0 was basically the original --

17   well, not the original because that was started at

18   3.8, and in 17.3 -- 17.2, sorry, we updated the

19   license to include the name change from Bosch, LLC to

20   Bosch Automotive Service Solutions; that was the only

21   major change.

22   Q.   Okay. So the third license in Exhibit 5, based on

23   your demonstrative, what EULA would have been in place

24   at the time of that license?

25   A.   Dee. So that would be 18.0 -- no, 19.0; that would be

1   the version to basically December 6th, 2019.

2 Q. Can you look at Exhibit 1 in the book?

3 A. Okay.

4 Q. Can you tell us what Exhibit 1 is?

5 A. EULA license agreement for the activation of the CDR

6   software.

7 Q. What version is this applicable to?

8 A. That would be applicable to -- so we made a change

9   here, so it would be 17.3.

10 Q. And look at Exhibit 2 and tell me what that is.

11 A. Okay. This would be applicable to, let's see, 19.0

12   release, which is released on June 6th.

13 Q. What year?

14 A. Sorry, 2019.

15 Q. Okay. And has the EULA changed for the Bosch software

16   since that time?

17 A. Since 19.0, no.

18 Q. This is the current version?

19 A. Correct.

20 Q. Okay. I want to talk about how a user installs the

21   software.

22 A. Okay.

23 Q. And if you can look at Exhibit 7. Tell me what this

24   is.

25 A. That's the installation guide in 2019, I believe.

1   Q.   Can you just walk us through how the installation

2   process works?

3   A.   So it starts with the purchase of the software

4   subscription. So a customer would contact Crash Data

5   Group; Crash Data Group would basically, once they

6   determine the commercial aspect of it, they will

7   enable this customer in the Bosch-licensed database,

8   and once the payment was received, then they'll send

9   out a subscription at that particular time, and the

10   customer would get an e-mail from a Bosch-licensed

11   server and it will basically say, hey, we've got --

12   thank you for your purchase of Bosch CDR software,

13   blah, blah, blah, and it will give them instructions

14   to go and download the latest version of CDR, which is

15   located on our Bosch website and install that.

16   There is an end user license agreement that

17   the user accepts for the base software. So there is

18   two steps: One, you install the software and second,

19   the e-mail that they receive from a Bosch-licensed

20   server has an attachment; it's an activation

21   certificate.

22   Q.   So you prepared some slides on how that process was,

23   right?

24   A.   Yes.

25   MR. ZELLER: Can I show a demonstrative?

1   THE ARBITRATOR: Sure.

2   MR. ZELLER: I don't have the printout; I

3   just have it on screen.

4   THE ARBITRATOR: That's fine.

5   BY MR. ZELLER:

6   Q.   You can see that?

7   A.   Yeah.

8   Q.   So you mentioned a certificate.

9   A.   Yes.

10   Q.   And what's on --

11   A.   So that's the process of when you basically open the

12   software that you installed and it's not activated for

13   use of downloading and retrieving data; to do that,

14   you would install the certificate you get through the

15   e-mail, and one of these are our license that the

16   customer gets and so they would select whatever

17   version that is and they would hit open.

18   Q.   Next page.

19   A.   This is pretty small. That's basically -- this is the

20   affirmation text. Basically, this kind of --

21   Q.   Did you say it was about the number of installations?

22   A.   Yeah, the number of subscribers. So one particular

23   activation certificate can support multiple users, and

24   the users -- there you go.

25   So this one is good for one subscription.

1   So this is one user and then they confirm that. So if

2   you scroll down a little bit. And basically, this

3   kind of repeats the EULA, which in the very end the

4   user can view the EULA, but this was just so it was

5   very clear to our customers, this is one subscription.

6   If there were ten, it would say ten subscriptions.

7   And we wanted to get our customer's confirmation that

8   oh, yeah, okay. If they didn't read the full text of

9   the EULA, at least they understand this is the one

10   subscription.

11   Go to the next slide. Then here's the

12   context of the EULA.

13 Q. Okay. And the user has to click the accept button?

14 A. Yeah.

15 Q. This particular one is the version 19 we talked about?

16 A. Yeah.

17 Q. What do you do after you hit accept?

18 A. Then you continue, and I guess there is another one

19   for the data protection; just a reminder that there

20   could potentially be personally identifiable

21   information in the CDR report, and then they agree.

22   So it basically says that you have one subscription.

23 Q. Okay. Is there another click on that one?

24 A. Another continue. So that's the last slide.

25 Q. Up at the top of that slide, what is that up there;

1   you can go back and display, is that what you said?

2 A.   Yes.

3 Q.   Just confirming that --

4 A.   So the user, after they confirm the EULA, they can go

5   back and read it in more detail, if they wish.

6   MR. ZELLER: I'm at a good break time.

7   THE ARBITRATOR: Okay. Let's take a break.

8   Let's come back in about 15 minutes or so.

9   (Off the record at 10:35 a.m.)

10   (Back on the record at 10:53 a.m.)

11   THE ARBITRATOR: Go ahead.

12 BY MR. ZELLER:

13 Q.   Mr. Rose, you know who Collision Sciences is, correct?

14 A.   Yes.

15 Q.   And you've heard of Jason Bayley?

16 A.   Yes, I have.

17 Q.   Do you know when -- do you recall when you first heard

18   of Jason Bayley?

19 A.   I don't remember exactly when, but I can probably find

20   out. Back in 2017 or something; I don't remember

21   exactly when.

22 Q.   Let me show you Exhibit 13. Can you tell me what this

23   is?

24 A.   This was an e-mail that was sent to me by Matt Rausch

25   from Suzuki. He was the service tool contact in the

1   U.S. for Suzuki.

2   Q.   Did you know Matt Rausch?

3   A.   Yes.

4   Q.   How did you know him?

5   A.   Through my relationship with Suzuki Japan. We sent

6   them -- they bought some tools for confirming that

7   they meet the U.S. regulation, and for their team if

8   they needed to do downloads and stuff.

9   Q.   When did you receive this e-mail?

10   A.   September 12th, 2017. I wouldn't have known that

11   until I saw the date.

12   Q.   Do you recall receiving it?

13   A.   Yes, I do recall.

14   Q.   Do you recall what your reaction was?

15   A.   Quite frankly, my reaction was this is kind of a funny

16   way to try to get data from an OEM. Basically saying

17   that we're -- this was my initial thought, I don't

18   know Jason or anything, but my initial thought was

19   okay, I guess as long as someone says they're working

20   with Bosch, maybe Suzuki would give them access to the

21   specifications; that was my initial thought.

22   Q.   In September of 2017, was Bosch working with Collision

23   Sciences at all --

24   A.   No.

25   Q.   -- as a CDR team?

1   Was there ever a time you worked with

2   Collision Sciences?

3   A.   No.

4   Q.   Has Jason Bayley ever contacted you?

5   A.   Yes, through an e-mail that he sent through Kitch

6   Myles (sic), I think.

7   Q.   Let's look at Exhibit 23.

8   A.   Okay.

9   Q.   Tell me what Exhibit 23 is.

10   A.   That is Kitch Myles' e-mail sent to me, and I believe

11   he followed up with a phone call also introducing me

12   and Bernie Carr to Jason Bayley from Collision

13   Sciences.

14   Q.   When did you receive this e-mail?

15   A.   October 27th, 2019.

16   Q.   Whose Bernie Carr?

17   A.   Bernie Carr is a colleague of mine who worked for

18   Bosch. He no longer works there anymore. We worked

19   together in the product management in the application

20   engineering group, so he didn't really know so much

21   about the CDR; he was more on the scan test side of

22   the development.

23   Q.   Had you heard of -- Myles Kitchen, I think is the

24   name.

25   A.   No.

1   Q.   You had not heard of him at that time?

2   A.   No.

3   Q.   If you can turn to 25. What is Exhibit 25?

4   A.   That's an e-mail from Jason Bayley on November 1st,

5   2019.

6   Q.   This is a follow-up from the Exhibit 23, right?

7   A.   Yes.

8   Q.   Do you remember receiving this e-mail?

9   A.   Yes.

10 Q.   What was your reaction?

11 A.   A lot of things came to mind. One was potential of --

12   I forget what it is -- the potential of trying to

13   split the market, which is an anti-trust issue, if I

14   engaged with Jason Bayley or any other company wanting

15   to collaborate.

16   So my initial thought was, okay, well,

17   Bosch makes available a link, Invent with Bosch, and I

18   suggested that Jason contact through that e-mail so

19   that if anybody else, you know -- because they do

20   check those e-mails and stuff -- and that -- because

21   I'm the product manager of the CDR, if they thought it

22   was as viable, possible relationship, then they would

23   reach out to me. So I had suggested that rather than

24   going down that discussion to have him go through

25   Invent with Bosch.

1   Q.   If you could look at Exhibit 29. What is Exhibit 29?

2   A.   It's my response to Jason Bayley's e-mail on November

3   1st, 2019.

4   Q.   This is what you are referring to --

5   A.   Yeah.

6   Q.   Did you hear anything further about this

7   communication?

8   A.   No.

9   Q.   Are you aware of any Bosch customers who are or have

10   you used this CSI tool, Collision Sciences' tool?

11 A.   Yes.

12 Q.   What are you -- who are you aware of?

13 A.   Mike Morelli from MAPFRE Insurance.

14 Q.   We looked at Exhibit 6 before, there were a number of

15   insurers as using -- listed as using the Bosch tool.

16 A.   Uh-huh.

17 Q.   Are you familiar with any of those insurers using the

18   Collision Sciences tool?

19 A.   Only by discussion with some stakeholders like Crash

20   Data Group or whatever, saying that --

21   MR. MONSMA: Object to hearsay and lack of

22   foundation.

23   THE ARBITRATOR: Counsel, what do you think

24   about that?

25   MR. ZELLER: I'll ask another question.

1   THE ARBITRATOR: All right. Sustained.

2   BY MR. ZELLER:

3   Q.   Let's talk about Mike Morelli.

4   A.   Okay.

5   Q.   First of all, who is Mike Morelli? You said he worked

6   for MAPFRE?

7   A.   Yes. He was responsible for their accident

8   investigation team in the U.S. as far as I know;

9   that's what his role was, and he also created

10   curriculum for one of our training organizations for

11   teaching the CDR tool training.

12 Q.   Can you turn to page -- to Exhibit 32. Do you know

13   what Exhibit 32 is?

14 A.   Yes.

15 Q.   What is it?

16 A.   It is a forward from Collision Sciences.

17 Q.   Sorry, who?

18 A.   A forward from -- no, sorry, it was from Mike Morelli,

19   sorry.

20 Q.   It's an e-mail?

21 A.   E-mail from Mike Morelli basically stating the -- his

22   workings with Collision Sciences.

23 Q.   Who did he send this to?

24 A.   He sent it to myself, Scott Baker, and Rusty Haight,

25   who is the owner of Collision Safety Institute.

1   Q.   What is Collision Safety Institute?

2   A.   They train accident reconstruction and part of it they

3   do CDR tool training.

4   Q.   I think you mentioned Scott Baker, but who is he

5   again?

6   A.   He's the owner of Crash Data Group, which is the

7   company that distributes the CDR tool in North

8   America.

9   Q.   So what is it that Mike Morelli is sending to you?

10   A.   So he's sending a report. I don't know -- okay, yeah,

11   it's kind of confusing as far as what the context was,

12   but basically this is the -- the sample reports from

13   Collision Sciences that were sent to him.

14   Q.   Why was he sending these to you and Rusty and Scott

15   Baker?

16   A.   Because I believe he wanted to try out this Collision

17   Sciences tool. I believe --

18   MR. MONSMA: Sorry, objection to

19   foundation.

20   THE ARBITRATOR: Overruled. Go ahead.

21   A.   Sorry, what was the question again?

22   BY MR. ZELLER:

23   Q.   Do you know why he sent this e-mail to you --

24   forwarded this e-mail to you?

25   A.   Yes, because he was providing us information about the

```
 1        Collision Sciences' tool that he received from Jason

 2        Bayley.

 3   Q.   So exhibit --

 4   A.   Just so you know, Mike Morelli is responsible in the

 5        U.S. for the CDR tool, essentially making sure that

 6        legally they're able to use the CDR tool and that it's

 7        used in the -- for the purposes of MAPFRE.  So he was

 8        curious about Collision Sciences, because I believe

 9        Jason had reached out to him about the tool and so

10        Mike Morelli said okay, I'll evaluate it; at least

11        that's my discussion with Mike Morelli.

12   Q.   Okay.

13   A.   Kind to --

14                  MR. MONSMA:  Tom, I try not to object too

15        much, so I apologize, but I don't believe there's a

16        question pending at this point.  We're getting into

17        narrative territory.

18                  MR. ZELLER:  Fair enough.

19                  THE ARBITRATOR:  Sustained.  We've been

20        doing a good job; we'll proceed by question and

21        answer.  Go ahead with your next question.

22   BY MR. ZELLER:

23   Q.   Exhibits 33 and 34 are attachments to the e-mail.  Do

24        you recall looking at either of these?

25   A.   Yeah.
```

1	Q.	First looking at 33; was there anything about Exhibit
2		33 that caused you concern?
3	A.	Yes, because there was -- basically, they were -- they
4		had a tool similar to the same capability as the CDR
5		tool, and obviously as a product manager I needed to
6		make sure that I'm aware of potential competition and
7		stuff. But a lot of this stuff, it made me look at
8		how they were doing it as far as the vehicle coverage,
9		because the vehicles that they claim they got
10		downloads from, we have license agreements with the
11		OEMs. So I was wondering why -- you know, did these
12		OEMs have the license agreement with Collision Safety
13		Institute to produce a report that looks very similar,
14		and actually the report -- there was a couple of them
15		on the website, I don't think they're there anymore,
16		but are actual CDR reports.
17	Q.	Let's stick with what these exhibits are.
18	A.	Okay.
19	Q.	How about the second one, Exhibit 34. Do you recall
20		looking at this exhibit?
21	A.	Yes.
22	Q.	Can you look at page 5 of the document?
23	A.	Okay.
24	Q.	In the middle of the page under the heading Collision
25		Sciences Solutions versus Bosch CDR Tool, hardware

1   clause.

2   A.   They're basically saying they used the CDR tool.

3   Q.   That wasn't my question, I'm sorry.

4   A.   Okay.

5   Q.   I'm sorry, it was on page 11. It's 3413 at the top.

6   There is a table here on the right side; it's Bosch

7   Tool Training and Human Resources. Do you see that?

8   A.   Yes.

9   Q.   Did you evaluate whether that's an accurate portrayal

10   of using the Bosch tool?

11   A.   I didn't go down to the penny, but the -- this is

12   just, I guess, Collision Sciences' interpretation of

13   costs, maybe true.

14   Q.   Did it concern you when you saw this comparison --

15   first of all, do you remember seeing this comparison

16   when you read this?

17   A.   Yes. I remember seeing the comparison and it wasn't

18   apples to apples, because the tool we sell is for

19   accident reconstruction and they want to be able to

20   download directly from the vehicle, because they're

21   responsible for doing the accident reconstruction and

22   it supports, you know, a myriad of vehicles. So it's

23   kind of -- in this case, this is -- what they're

24   offering isn't what the actual tool, what the CDR

25   provides.

1   The CDR tool provides cables, it provides

2   vehicle coverage, it provides technical support; the

3   tools necessary to connect any vehicle that's listed

4   in the file through direct to module download and

5   through OBD, and that comes at a cost. Those are the

6   -- the kit is sold in terms of what it takes to get a

7   customer -- one of our customers a full kit, and the

8   customers are asking for the full kit because they

9   don't know who -- what crash they're going to be

10   investigating; whereas this is $150, I'm assuming it's

11   -- I'm assuming that's the Bluetooth dongle, but the

12   CDR tool supports more; it supports FlexRay, Ethernet;

13   whereas this one device is primarily just a can tool,

14   as far as my understanding.

15 Q. Okay.

16 A. And it only does direct-to-module download. Our

17   customers need to be -- it only supports OBD

18   downloads. Our customers need to do direct-to-module

19   downloads as well. So it's a different customer in

20   the fact that they need to be equipped with whatever

21   equipment at the time of a crash and they go down --

22   it could be, you know, in the night or whatever, but

23   they want to make sure they're equipped before they go

24   to a crash site or a wrecking yard. So it wasn't --

25   it just was a different use case.

1   Q.   Can you turn to 3423 up in the right-hand corner?

2   A.   But just to add a little bit.

3   Q.   You can wait until the next question.

4   A.   Okay.

5   Q.   In the appendix, do you see the next page?

6   A.   Yes.

7   Q.   At 3424, the next page.

8   A.   All right.

9   Q.   Do you know what that is on page 3424?

10   A.   That's a Collision Sciences' report.

11   Q.   Have you seen one of those before?

12   A.   I saw it on their website, but I haven't -- no one

13   really sent me any reports.

14   Q.   Okay.

15   A.   Obviously, this --

16   Q.   Starting at 3434, again, in the right-hand corner,

17   what is on page 3434?

18   A.   That is the crash data retrieval tool report, CDR

19   report.

20   Q.   The Bosch tool?

21   A.   Yes.

22   Q.   This was included in the document that Mike Morelli

23   sent you?

24   A.   The first one are samples.

25   Q.   Exhibit 34 is all one document?

1   A.   Yes.

2   Q.   Looking at the crash data report that's here, can you

3   walk me through -- or walk us through like what the

4   things on here mean under CDR file information?

5   A.   Okay.

6   Q.   What's the first line?

7   A.   That's the user VIN; that's the VIN that the user

8   entered before they do a download. It could be read

9   out from the vehicle or manually entered.

10   Q.   Okay. The next line with data in it is EDR data

11   imaging date. What does that mean?

12   A.   That's the date that the report was generated after a

13   download.

14   Q.   And file name, I think that's clear. But the next one

15   is saved on; what does that represent?

16   A.   That's the date it was -- the file was saved.

17   Q.   If you could just walk us through the next few?

18   A.   And then the image with CDR version, that's the

19   version that was used to do the download; that was

20   saved on May 16th. And image with the software

21   license; that was the software, according to this, was

22   licensed to Collision Sciences. And the reported with

23   CDR version was the version of CDR software they were

24   using to do the download. And the reported with is

25   also the -- so the reported with Collision Sciences'

1   software, so they opened up the file that was

2   downloaded and they viewed it with Collision Sciences'

3   software. And device type, airbag control module.

4   And the events recovered, there were six events total

5   stored. And the CRC check failed because the VIN

6   number was masked. We won't get into details, but the

7   -- when you change any of the data in terms of VINs,

8   it will basically fail the CRC failure, and that's why

9   we say saved without VIN sequence number. As you can

10   see, the user-entered VIN, there's asterisks for the

11   last six characters, and that indicated it was masked.

12 Q.   Do you have any doubt that this was a report produced

13   by the software?

14 A.   No.

15 Q.   Okay. Let's look at Exhibit 31. Can you tell me what

16   Exhibit 31 is?

17 A.   That's an e-mail that was forwarded to me by Mike

18   Morelli, and it was forwarded to me Jason's e-mail to

19   him for the requested Subaru scans that Morelli asked

20   him to do.

21 Q.   Do you have any conversations with Mike Morelli about

22   this e-mail or about what was being discussed?

23 A.   Yes.

24 Q.   What did those questions concern; what did that

25   conversation concern?

1   A.   Basically, he said he was doing an evaluation of

2   Collision Sciences and he wanted to forward it to me

3   because is he concerned -- his concern was that

4   Collision Sciences was using the CDR tool in a manner

5   it wasn't designed for, and therefore, it was --

6   basically, it indicated that it was in violation of

7   the EULA. And the fact that he was able to remotely

8   connect to a Subaru and retrieve a CDR report, and

9   then send the actual CDR report, and this was

10   remotely, because I believe he's in Massachusetts or

11   something, and he was sending me the report to

12   basically confirm my suspicion that Collision Sciences

13   was connecting the CDR tool to his device or the

14   Bluetooth device to retrieve data using the CDR

15   software.

16   Q.   Based on the file names of the attachments, do you

17   know what he sent to you; can you recall what he sent

18   to you?

19   A.   Let's see, yeah, he sent me three files: Impreza

20   2014, 2019 Accent, and -- I want to make sure these

21   are the vehicles -- but yeah, so basically the two

22   Accents and an Impreza.

23   Q.   All right. Not all of them are attached, but if you

24   go to what's 31-2; can you look at that? Exhibit

25   31-2.

1   A.   Okay.

2   Q.   Do you know what 31-2 is?

3   A.   This is a Collision Sciences' report of the Impreza

4   that was basically created based on the download, I'm

5   assuming.

6   MR. MONSMA: Object to foundation.

7   THE ARBITRATOR: Sustained.

8   BY MR. ZELLER:

9   Q.   In the upper right-hand corner, there is -- same page,

10   there is some information there. Can you just read it

11   out?

12   A.   2014 Subaru Impreza, VIN -- I don't know if you want

13   me to read the VIN.

14   Q.   No.

15   A.   VIN with the last six characters masked. Report

16   number MAPFRE 0004, and the generated 2020/7/02 at

17   16:31 o'clock.

18   Q.   Okay. At page 3116, it's the last page, I'll

19   represent that -- very last page.

20   A.   Okay.

21   Q.   I'll represent that I tried to cut the paper down by

22   only doing first pages for Bosch reports.

23   Can you tell me the -- from what it appears

24   in this information, what vehicle this report relates

25   to?

1   A.   2014 Subaru Impreza.

2   Q.   And same as we did before, what version of the

3   software was used for this and whose license?

4   A.   So 19.4 it was imaged with. The software was licensed

5   to Collision Sciences. It was reported with CDR

6   version 19.4, so they had the actual most recent

7   version to review it at the time. And the EDR device,

8   the airbag control module, and the events recorded

9   were front-to-rear crash record two.

10 Q.   Based on what's showing in the VIN number, is it at

11   least the VIN number that's shown between the two

12   reports the same?

13 A.   Yes, except this one is masked.

14 Q.   Okay.

15 A.   And the last six digits are masked, so that's kind of

16   suspect because the CDR tool masks the last six, and

17   that's something that the CDR tool does perform. When

18   you save the file without a VIN number, it will go in

19   and it will mask the hex data, turn it into an A2, I

20   think, to -- basically, so the user can't detect the

21   VIN for privacy issues.

22   Now, other -- let's say the European

23   regulation, it says to mask the last four digits, but

24   the CDR tool has been doing this for many years; we

25   did the last six in order to -- that's what we thought

1   would basically make this a unique -- a non-unique

2   VIN. So the last six digits, it's kind of suspect

3   that this last six digits were basically matching what

4   the CDR tool does to make it -- anonymize the data.

5   So it looks like they used a CDR file to create this.

6   MR. MONSMA: Objection, speculation.

7   THE ARBITRATOR: Sustained.

8   BY MR. ZELLER:

9   Q.   Looking at Exhibit 3116.

10 A.   If the hex data is in here, I can show you that as

11   well.

12 Q.   Just look at the 3116.

13 A.   All right.

14 Q.   Do you have any doubt, just based on this first

15   page -- again, I tried to delete everything else --

16   that this was an authentic report produced by that

17   software?

18 A.   Yes. I don't have doubt.

19 Q.   All right. Let's look at 18 and we'll be done,

20   Exhibit 18. Can you tell me what Exhibit 18 is?

21 A.   This is a forward from Mike Morelli to Jason Bayley.

22 Q.   Can you -- when did this get forwarded to you?

23 A.   July 8, 2020.

24 Q.   So he forwarded an e-mail from Jason Bayley to you?

25 A.   Yes.

1   Q.   Can you tell me what he's sending to you in the

2   attachments?

3   A.   Looks like he was doing a download for a 2020 Chevy.

4   In the attachment?

5   Q.   Yes.

6   A.   So it's an Impreza as well as an Accent; the CDR files

7   from those downloads.

8   Q.   Mike Morelli says CDR X files, right?

9   A.   Yes.

10   Q.   What are those?

11   A.   Those are the files that the CDR tool creates. That's

12   a CDR X file, that's the file extension, and that's

13   basically the raw data that was captured, as well as

14   any additional context information that is encrypted

15   in the actual CDR file. So it's very specific to the

16   Bosch crash data retrieval tool.

17   Q.   So I think before you said the reports are in PDF; did

18   you say that?

19   A.   Yes. He sent us the PDFs and these are the actual CDR

20   X files.

21   Q.   What are the CDR X files used for?

22   A.   They're to view a download retrieved from the vehicle

23   that they're downloading from. And the difference

24   between a PDF and CDR X file is a CDR X file, you can

25   open it with a newer version of the CDR tool and if

1   there's any changes or updates to the translations or

2   additional data elements added, the user can basically

3   reopen it in the CDR X file and see any changes made;

4   where the PDF, that's a point in time. Then they

5   export it to PDF; that's when they created the file.

6   So you can't reopen a PDF and have all the software

7   changes included.

8 Q. So there was -- when we looked at the report, there

9   was a line item for the version that read the tool?

10 A. Yeah, the version that it was created with and where

11   the data was read.

12 Q. Data imaging, imaged with CDR version?

13 A. Yes.

14 Q. So that's the version that first downloaded --

15 A. Yes.

16 Q. -- or imaged it from a car?

17 A. Or from an ECU.

18 Q. And the second one was reported with CDR version?

19 A. Yes. And that's the one that's the -- when a user

20   opens up a CDR file, it may be a different version; it

21   could be a few versions after, and that will basically

22   show what version the customer is viewing the CDR file

23   in. So it doesn't have to be the same person that

24   downloaded it; it could be someone else.

25 Q. Just to be clear, you're talking about a CDR X file?

1 A.   Yes, correct.

2 Q.   Do you know why Mike Morelli sent these to you?

3 A.   I asked him to send them to me if he was -- you know,

4   if he could do it, please send it to me, because he

5   told me he was doing an evaluation of Collision

6   Sciences.

7 Q.   Mr. Rose, do you have any concerns about Collision

8   Sciences' product being in the market?

9 A.   Yes. The concern is if they're using any part of the

10   CDR tool to basically -- anything from requesting the

11   bids or the PIDs to translations. One of my main

12   concerns is that if they're either reverse engineering

13   or making assumptions, that that could cause bad will

14   on the CDR tool if there's multiple CDR tools out

15   there that have different translations and results.

16   And if Collision Sciences was not getting the data

17   directly from the OEMs and actually getting their --

18   getting the tool validated by the OEMs, the concern

19   would be that an OEM is going to say, hey, how come

20   they're getting this information, and it's wrong, and

21   the point is that if it's wrong, and it could be

22   wrong, if they're making assumptions based on the

23   data, the actual numerations of the data, right,

24   there's like up to 20 or 30 possible values that the

25   CDR report could -- so when you do one download, you

1   just see one value versus the whole, you know, all 20

2   some-odd values depending on what the data is. So

3   that information can be incorrect. As well as I

4   mentioned before, there are exception conditions that

5   we constantly are implementing for our OEMs saying

6   look at this data and, or, or whatever, against this

7   data and then display this result. So there's like

8   cases where there's multiple pieces of data that we

9   retrieve from the report, and we'll create one data

10   element that combines complex logic, right, to get the

11   result of one data element.

12   So stability control, cruise control,

13   active cruise control, those all have -- for a lot of

14   OEMs they have multiple information to create one

15   data. And without knowing that, either -- if you're

16   just guessing, I don't think that you can guess at

17   that to get it right. Maybe. Maybe there's guys that

18   are a lot better than our team. But the point is

19   without reverse compiling the CDR to see where those

20   pieces of data are coming from in order to create one

21   data element, I don't see that.

22   And again, if that data is misrepresented

23   in a court, then it gets thrown out and whether it's

24   the CDR tool or a Collision Sciences' tool, all the

25   court knows is it's a EDR read-out tool. I don't care

1   if it says Collision Sciences or a CDR tool; that's

2   one of my main concerns.

3   The other thing is that we spend a lot of

4   effort with the OEMs to do the development, to make

5   sure the stuff is right, and, you know, we make

6   mistakes, but we're closest to the source of

7   information, where it's coming from, as well as the

8   OEMs are actually creating their own data to test it,

9   and our testing, you know, with the ISO-9001

10   certification, they go through test protocols, and in

11   order to ensure that we're representing the OEMs' EDR

12   data correctly so that when it does get brought to a

13   court and they're trying to decide whether or not

14   they're going to criminally charge someone, to the

15   best of our knowledge as well as OEMs' knowledge, that

16   that's information. If you throw another third party

17   in there and they're, you know, I don't know, reverse

18   engineering or -- if they're using our CDR tool, at

19   least that's good because it's accurate to the tool,

20   to what we implement. But if they're doing reverse

21   engineering to create their own tool, then there could

22   be a myriad of potential issues.

23   Q.   Have you had -- have you expressed any of these

24   concerns to other people?

25   A.   Yes.

1 Q. Can we look at Exhibit 27?

2 A. Okay.

3 Q. Can you tell me what Exhibit 27 is?

4 A. That is an e-mail from Don Floyd from GM who is the

5   project and program manager for the crash data

6   retrieval worldwide for General Motors.

7 Q. What's the date?

8 A. November 26, 2018.

9 Q. And had you known Don Floyd before this?

10 A. Yes.

11 Q. What did you express to Don Floyd about your concerns

12   that you just mentioned?

13 A. I don't need to express it to Don Floyd, because Don

14   -- when we do development for GM, he understands the

15   complexity and where things can go wrong, and he's

16   seen cases where people try to manipulate the PDFs of

17   the CDR report. So he's concerned from GM's

18   standpoint that, again, basically lose control of

19   ensuring accuracy, and accuracy is based on the

20   accuracy of the OEM specification; that's what we go

21   off for our accuracy. And if there's -- if there's

22   somebody else interpreting the data, he knows that a

23   lot of times there are exceptions and there's data

24   limitations that explain every potential issue that

25   could be -- the user could find, and that gets updated

1   sometimes once a year, twice a year, and their legal

2   team is constantly updating the data limitations. If

3   those data limitations are not provided to the

4   customer that's doing the download, they're not going

5   to understand the limitations, and that's his concern,

6   you know, that there could be a litigation case and

7   they can say, hey, the RPM wasn't blah, blah, blah,

8   right, so -- anyway, that's his concern.

9   Q. Okay. He mentions the summit members. Do you know

10   what he was referring to?

11 A. Our stakeholders, primarily the OEMs. We have, up

12   until Covid, we used to have an annual meeting with

13   all of the -- well, not all of them, those that could

14   attend, we would have a conference, a three-day

15   conference, where we talked about how to write specs,

16   how to write data limitations, so they can share with

17   other OEMs that are new, right, as well as any issues

18   that an OEM has in the industry, so that's where we

19   discuss that.

20 Q. Did you follow up with other summit members as he

21   suggested?

22 A. I don't know. I believe I did, but I don't remember

23   because there's a lot of work that goes into these

24   summits, but I can't say yes or no.

25 Q. And have you talked to any other OEM representatives,

1   expressed to any OEM representatives, about your

2   concerns about Collision Sciences?

3   A.   Yes.

4   Q.   Can you look at Exhibit 36?

5   A.   Okay.

6   Q.   What is Exhibit 36?

7   A.   It was basically my concern about Collision Sciences

8   answering our distributor's concern about Collision

9   Sciences; where they were going basically after his

10   customers and so basically what I wanted to do was

11   wanted to tell them --

12   Q.   I think you jumped the gun a little bit. Let's talk

13   about what the document is first.

14   A.   Okay.

15   Q.   That's my question.

16   A.   It was responding to Geert, who is the Toyota field

17   investigator for Europe, to an e-mail that was sent by

18   Dr. Heinz who was our distributor regarding Collision

19   Sciences.

20   Q.   So this is an e-mail from you?

21   A.   Yes, addressing Geert's response to our distributor's

22   e-mail to him.

23   Q.   When did you send this e-mail?

24   A.   March 10th, 2020.

25   Q.   Can you tell me who Geert is?

1 A. He's, again, I guess the -- actually, he's now a

2   manager of the field investigations in Europe for

3   Toyota; Toyota Motor Europe.

4 Q. Do you know who Dirk Christaens is?

5 A. No, I don't.

6 Q. What about Dr. Heinz Burg?

7 A. Dr. Heinz Burg, he was one of our distributors in

8   Europe. He's no longer an distributor; he retired.

9 Q. There's also two other people; do you know who they

10   are in the CC line?

11 A. Andreas Moser, no; Brad Muir, yes.

12 Q. Who he is?

13 A. Brad Muir is also one of our training organizations,

14   Crash Data Specialists, and also he's a beta tester of

15   ours as well.

16 Q. What was the purpose of you presenting this e-mail to

17   Geert and the others?

18 A. It was basically to let them know that we knew who

19   Collision Sciences is and to answer questions that

20   they had about Collision Sciences, and then also what

21   I wanted to do was to basically provide four points to

22   our distributor. What I told our distributor,

23   basically to not -- to basically guide the customer

24   who they're buying the tool, who says, oh, what about

25   Collision Sciences; why shouldn't I buy this? So I

1   basically sent the direction on what I would say

2   rather than saying Collision Sciences' tool isn't CDR

3   or whatever, but basically saying you need to make

4   sure if there is a competitor out there, you need to

5   find out what the unique differences are between the

6   CDR tool and them.

7   The first one is the -- do they have a

8   license agreement with the OEM and are they doing

9   development for the OEMs like Bosch is? And if they

10   are, if they're getting data and the OEMs are

11   validating and it's a trusted source, that's fine, but

12   we needed to basically provide guidance rather than

13   trying to dissuade them from the Collision Sciences'

14   tool, just saying, look, make sure that they are using

15   OEM information, find out whether or not they've

16   reverse engineered it, because as I mentioned before

17   about reverse engineering, again, you don't get every

18   case; as a matter of the fact, you don't get a lot of

19   the cases, and how do they test the output, how do

20   they make sure that the vehicle is downloading as per

21   the OEM specification, and is Bosch aware of how

22   they're using the CDR tool to support their services?

23   So in other words, if they were using the CDR on a

24   remote connection, that was against our EULA. And

25   then the customer can make the decision.

1   Q.   Okay. You mentioned I think it was Brad Muir was the

2   trainer.

3   A.   Yes.

4   Q.   Is it -- are there other trainers for the Bosch tool?

5   A.   Yes.

6   Q.   Had you had any discussions with any of the trainers

7   about concerns about Collision Sciences?

8   A.   I think mainly just Brad and Rusty and Mike Morelli,

9   and obviously Scott Baker, he's the distributor. The

10   reason I'm letting our trainers know, because they're

11   constantly asked what about Collision Sciences, why

12   shouldn't I use their tool, and they have to answer

13   that. And I don't script their answers; I just give

14   them the guidance like these four points, and that's

15   what Bosch's response is.

16   MR. ZELLER: I think I'm done.

17   THE ARBITRATOR: Okay. Mr. Rose, we're

18   going to ask you to move from that chair to this

19   chair, and then we'll have cross-examination.

20   MR. MONSMA: Tom, do you want to do lunch

21   first?

22   THE ARBITRATOR: No. It will be here, I

23   hope, in 20 minutes to half an hour, so let's get

24   started on that.

25   MR. MONSMA: Sure. Let's go off the record

1   for a minute.

2   (Off the record at 11:52 p.m.)

3   (Back on the record at 11:53 p.m.)

4   EXAMINATION

5   BY MR. MONSMA:

6   Q.   Mr. Rose, I think you probably remember me, I'm the

7   attorney for Collision Sciences in this case, Tim

8   Monsma, and we met remotely during your deposition a

9   couple months ago.

10   A.   Yes.

11   Q.   Thank you for your time today. I want to ask you a

12   couple background questions here.

13   You joined Bosch in 2003, right?

14   A.   Yes.

15   Q.   You're the senior project manager at Bosch?

16   A.   Senior product manager.

17   Q.   Product, okay. You're responsible for managing the

18   CDR tool at Bosch, right?

19   A.   Correct.

20   Q.   Can you flip to Exhibit A? Do you recognize that

21   document? We don't have to spend a whole lot of time

22   on it.

23   A.   Yes.

24   Q.   This is a Notice of your deposition?

25   A.   Yes.

1   Q.   You were the designated person to testify on certain

2   topics. Do you remember that?

3   A.   Yes.

4   Q.   Flip, if you would, to last page of Exhibit A. Under

5   topics for testimony at the very bottom; do you see

6   that?

7   A.   Yes.

8   Q.   You were presented in this case to testify about

9   Bosch's damages in this case, right?

10   A.   Uh-huh.

11   Q.   And you were designated as the person most

12   knowledgeable about the different versions of the

13   EULAs?

14   A.   Yes.

15   Q.   And you were the person designated as having the most

16   knowledge about the factual basis for Bosch's claims,

17   correct?

18   A.   Correct.

19   Q.   And that's still the case, isn't it?

20   A.   Yes.

21   Q.   Let me ask you about Bosch's business model and CDR

22   tool. The CDR tool is only a small piece of what

23   Bosch does, right?

24   A.   Oh, yeah.

25   Q.   When I say Bosch, just for clarity, I'm talking about

1   Bosch Automotive Services.

2   A. There's 300,000 employees or whatever.

3   Q. When I say Bosch, that's shorthand for the Claimant in

4   this case.

5   A. Okay.

6   Q. So with respect to Bosch, just to reiterate, the CDR

7   tool is a very small piece of the business, isn't it?

8   A. Yes.

9   Q. It accounts actually for only about 5 percent, right?

10   A. 5 percent?

11   Q. Of the revenue.

12   A. I do not know the number.

13   Q. If you testified to that in your deposition, would you

14   agree with that here today?

15   A. Sure.

16   Q. And I think you testified Bosch's customers include

17   law enforcement?

18   A. Right.

19   Q. And that's the biggest component of Bosch's customers?

20   A. That's our biggest customer group.

21   Q. It's significantly bigger, right?

22   A. Yeah.

23   Q. I think you testified that federal agencies are

24   another customer base?

25   A. Yeah, federal agencies are smaller. So it's law

1   enforcement and then independent accident

2   investigators is the next level down.

3   Q. You sell the CDR tool through a distributor, right?

4   A. We sell to a sole distributor; it's not exclusive, so

5   if we want another distributor, we can add one.

6   Q. But you don't have one right now?

7   A. No.

8   Q. And that distributor --

9   A. In the U.S.

10 Q. I'm sorry. Go ahead.

11 A. In North America.

12 Q. And that distributor does all of the marketing for the

13   CDR tool, right?

14 A. Yes, majority.

15 Q. Bosch doesn't market directly to customers other than

16   OEMs?

17 A. Correct.

18 Q. Bosch's business model is the sale of the physical

19   tool and the software, right?

20 A. Correct.

21 Q. Bosch doesn't charge any service fees to customers?

22 A. No.

23 Q. Bosch doesn't provide any value-add services with

24   respect to the CDR tool, right?

25 A. Customer support.

1   Q.   Technical support for the tool?

2   A.   Yes.

3   Q.   Okay. It's fair to say, isn't it, that CSI provides a

4   lot of services that Bosch does not?

5   A.   Well, I guess in the context of who our customer is,

6   I'm assuming that they did their marketing research in

7   terms of what additional services they want to

8   provide, but we just download and retrieve the data

9   and give the data to the investigators, and they make

10   their own decisions on what happened in the crash, so

11   apart from that...

12   Q.   You're aware that CSI provides a lot of other services

13   to its customers, right?

14   A.   I'm assuming they do, right, because --

15   Q.   I don't want you to assume. I want you to testify to

16   what you know.

17   A.   Well, I guess, yeah.

18   Q.   Okay. You've been involved in this case for a while

19   now. It's fair to say that the Bosch tool does not do

20   exactly what the CrashScan app does, does it?

21   A.   Yeah, I don't know how to partition that. I'm not

22   sure exactly what this CrashScan tool does

23   functionally.

24   Q.   You don't know anything about it?

25   A.   I know a little bit about it as far as what the output

1   is, but I don't know if that's CrashScan or other

2   services that CSI provides. So CrashScan

3   specifically, I don't know; I never did an assessment

4   on what the functionality is in the CrashScan.

5   Q.   You remember your deposition?

6   A.   Yes.

7   Q.   And you swore in that deposition to testify

8   truthfully, right?

9   A.   Yes.

10   Q.   And you did that?

11   A.   Yes, to best of my knowledge, yeah.

12   Q.   Okay. I'm going to represent to you, and I have a

13   copy of the transcript if you want it, that in your

14   deposition -- in fact, why don't I give it to you so

15   you have a chance to look at that.

16   A.   Okay.

17   MR. MONSMA: I can give Tom and Steve

18   copies, if you want.

19   THE ARBITRATOR: I don't need one at the

20   moment.

21 BY MR. MONSMA:

22   Q.   I ask if you can flip to page 33.

23   A.   Okay.

24   Q.   Page 33.

25   A.   Okay.

1   Q.   On line 12, I asked you -- my question was: CSI

2   provides a value-add on top of data retrieval, right?

3   And your answer was: I believe so, yeah. And then I

4   asked you: And Bosch does not do that, does it? And

5   you said, quote, the Bosch tool does not do exactly

6   what the CrashScan does. And that's accurate

7   testimony, right?

8   A.   Yes, that is accurate testimony.

9   Q.   Bosch doesn't do remote data retrieval, does it?

10   A.   We do in Spain.

11   Q.   So not in U.S.?

12   A.   No.

13   Q.   Not in Canada?

14   A.   No.

15   Q.   Not in Mexico?

16   A.   Correct.

17   Q.   That's not part of the business model?

18   A.   Not in North America, yes.

19   Q.   In fact, you don't recall a Bosch customer ever asking

20   you for the ability to do remote retrieval, do you?

21   A.   U-Haul asked for us to provide a lower cost device and

22   kind of implied that's what they wanted.

23   Q.   You specifically remember U-Haul?

24   A.   Yes.

25   Q.   Take a look at your dep transcript, page 33, line 19.

1   I asked you: It's true, isn't it, that you've had

2   customers come to you and ask you to provide a remote

3   data retrieval solution? And your answer was: Yeah,

4   I don't recall customers asking for a remote data

5   retrieval system. That's different than what you just

6   testified to, isn't it?

7   MR. ZELLER: I'm going to object. I don't

8   think it's impeaching.

9   THE ARBITRATOR: Overruled.

10 A.   Yeah, so we've talked about this with U-Haul, and

11   whether it was a remote connection or whether it was a

12   lower cost device.

13 BY MR. MONSMA:

14 Q.   So your testimony today though is different than it

15   was in your deposition on this topic, isn't it?

16 A.   I don't think so.

17 Q.   You don't think so? In your deposition you said you

18   didn't recall customers asking for remote data

19   retrieval and now you're saying that you do.

20   MR. ZELLER: I believe he said --

21 A.   They wanted a low cost device.

22   THE ARBITRATOR: Go ahead. Finish your

23   answer.

24 A.   And one could imply that there was a server-type

25   component to that.

1   THE ARBITRATOR: I think he's answered. We

2   can move on.

3   BY MR. MONSMA:

4   Q.   Either way, it's fair to say that the remote data

5   collection is not a focus of Bosch's business, right?

6   A.   Again, we have a tool in Spain.

7   Q.   I'm talking about North America.

8   A.   Yes.

9   Q.   That's not a capability that the CDR tool even has, is

10   it?

11 A.   Today, no.

12 Q.   Let me ask you about the breaches that Bosch is

13   alleging in this case.

14 A.   Okay.

15 Q.   Is it your understanding that at this stage in the

16   case there's really three breaches, right?

17 A.   Uh-huh.

18 Q.   Is that a yes?

19 A.   Yes.

20 Q.   Sorry, I'm asking for the reporter.

21 A.   Yes.

22 Q.   So I'll list them off and we can talk about them,

23   okay? The first alleged breach is the use of the

24   Bosch tool for competitive reasons. Does that sound

25   right?

1   A.   Yes.

2   Q.   The second breach is the remote transmission of EDR

3   data, is that accurate?

4   A.   Correct.

5   Q.   And then the third is you allege that CSI reverse

6   engineered the CDR tool, right?

7   A.   Yes.

8   Q.   Let me ask you about the use of the Bosch tool in

9   competition with Bosch.

10   A.   Okay.

11   Q.   Let me ask you to flip to Exhibit E in your book

12   there. Do you have that in front of you?

13   A.   Yes.

14   Q.   That's version 19 of the EULA, right?

15   A.   Yes.

16   Q.   And section 2.3.7 prohibits using the Bosch CDR tool

17   in a manner that competes with Bosch, right?

18   A.   Correct.

19   Q.   You don't know if CSI is actually using the Bosch CDR

20   tool to compete with Bosch, do you?

21   A.   Let me break this down.

22   MR. MONSMA: I'm sorry, off the record for

23   a second.

24   (Off the record at 12:05 p.m.)

25   (Back on the record at 12:05 p.m.)

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 1   BY MR. MONSMA:

 2   Q.   So let me back up again.  Do you see section 2.3.7 of

 3        the EULA prohibits using the Bosch tool --

 4   A.   Yes.

 5   Q.   -- to compete with Bosch, right?

 6   A.   Yes.

 7   Q.   So my question is:  You don't know if CSI is using the

 8        CDR tool to compete with Bosch, do you?

 9   A.   In my opinion, yes.

10   Q.   But you don't know?

11   A.   I can -- as far as their statement saying that you

12        don't have to buy an expensive tool to get this

13        information and marketing it as a replacement for the

14        CDR, I would think that's -- I would constitute as

15        competition.

16   Q.   That's you speculating, isn't it?

17   A.   That's my understanding.

18   Q.   Okay.  Turn to page 39 of your deposition there.  I

19        want you to look at line 17.  I asked you:  So as far

20        as you know, CSI is not actually using the Bosch CDR

21        tool to compete with Bosch, is it?  And your answer

22        was:  I don't know; are they?

23                 So again, you don't actually know if

24        they're using the CDR tool to compete with Bosch, do

25        you?
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1 A.   Based on my interpretation I think they are, but you

2   were asking me, and I --

3 Q.   And you don't know, do you?

4 A.   I guess I don't have physical evidence right now to

5   demonstrate that.

6 Q.   And you're the person most knowledgeable about this

7   issue at Bosch, aren't you?

8 A.   I'm designated as the product manager, so...

9   MR. ZELLER: I'm going to object. He's

10   calling for a legal conclusion.

11   THE ARBITRATOR: That is ultimately my

12   conclusion, but I think this is fair

13   cross-examination. Overruled.

14 BY MR. MONSMA:

15 Q.   Mr. Rose, you speculated today and you did it in your

16   deposition as well that CSI was using the Bosch tool

17   to compete with Bosch?

18 A.   Yes.

19 Q.   And your speculation though is that that competitive

20   use happened before 2019, isn't that right?

21 A.   Before 2019; I believe it was used fairly recently.

22 Q.   Turn to page 39. You still have it in front of you.

23   Line 23 I asked you: So this competitive use, in your

24   understanding, was prior to 2019? And your answer

25   was: I believe so. I read that accurately, didn't I?

1   A.   Yes.

2   MR. ZELLER: I'm going to object. It's not

3   impeaching because it doesn't put the whole thing in

4   context about what competitive use he's talking about.

5   THE ARBITRATOR: I'll let you follow up on

6   that on redirect. Overruled.

7   BY MR. MONSMA:

8   Q.   I'll jump to a different topic on the same breach.

9   Bosch considered adding value-added service to its

10   offerings, didn't it?

11   A.   Yeah, in the past we've thought about adding more

12   functionality to the product.

13   Q.   And other services to customers?

14   A.   I don't -- yeah, like charging for support, I don't

15   recall.

16   Q.   Bosch ultimately didn't decide to move into that area

17   of business, right?

18   A.   Not at that time, no.

19   Q.   And not ever, right?

20   A.   I don't know if ever is accurate.

21   Q.   Bosch's business model is currently based on selling

22   the hardware and then the software, right?

23   A.   Uh-huh.

24   Q.   I'm sorry, is that yes?

25   A.   Yes.

1   Q.   It's for the reporter's sake.

2   So your business is focused on selling the

3   hardware and software, right?

4   A.   Today, yes.

5   Q.   But you don't do anything else with customers other

6   than technical support, right?

7   A.   The current application, that is correct.

8   Q.   You don't provide assistance in interpreting data or

9   coming to conclusions about what happened in any

10   particular incident?

11 A.   No, but -- can I consult with my attorney?

12 Q.   No.

13   THE ARBITRATOR: No, unfortunately not in

14   this context.

15 A.   So there's other parts of Bosch that are using the CDR

16   data for other purposes outside of the context of the

17   CDR tool, the physical cables, and stuff, so -- and

18   they're apart from my group.

19 BY MR. MONSMA:

20 Q.   They're outside of Bosch?

21 A.   No, they're part -- outside of the Bosch crash data

22   retrieval development team.

23 Q.   Okay. Bosch doesn't assist users in interpreting the

24   Bosch reports, does it?

25 A.   No, we don't.

1	Q.	Bosch reports aren't easy for a layperson to
2		understand, are they?
3	A.	You are correct, yes.
4	Q.	Let me ask you about the second breach, alleged
5		breach. Actually, let me back up.
6		It's true, isn't it, that CSI originally
7		approached Bosch to collaborate?
8	A.	Yes.
9	Q.	Not to compete, right?
10	A.	I don't know whether that was their intention or not,
11		but they approached us to collaborate, yes.
12	Q.	Let me ask you about the second breach: Remote
13		transmission of data. If you look at Exhibit E. Do
14		you still have that in front of you?
15	A.	Yes.
16	Q.	Section 2.2.1, I'll paraphrase this because it's a big
17		provision, but that's the provision that purports to
18		prohibit remote connection to the CDR tools over a
19		server, right?
20	A.	Correct.
21	Q.	In your opinion -- and I'll get to some more questions
22		about the contract later, but let's establish this
23		here a minute: You drafted this document, didn't you?
24	A.	With the help of legal, yes.
25	Q.	But you were the main driver for implementing version

1   19?

2   A. Correct.

3   Q. So I'm going to ask you a question that borders on a

4   legal conclusion, and I'll grant you that, but you did

5   draft this document, so what exactly did you try to

6   prohibit in section 2.2.1?

7   MR. ZELLER: I'm going to object to calling

8   for a legal conclusion in terms of whether he drafted

9   this section; you haven't established that.

10 BY MR. MONSMA:

11 Q. Let's go to the contract then. The last part of

12   section 2.2.1 prohibits someone from enabling remote

13   connection to CDR tools over a server or Internet

14   server, right?

15 A. Okay.

16 Q. Is that correct?

17 A. Yes.

18 Q. Okay. And somebody using a remote connection to

19   access Bosch's CDR tool would not harm Bosch in any

20   way, would it?

21 A. Oh, yes. Depends on what they're using it for. If

22   they're getting around customers purchasing a software

23   license --

24 Q. I don't want to get into speculation. I'm saying in

25   the abstract --

1   A.   It's not speculation.

2   Q.   Let me ask my question, please. Somebody accessing

3   the CDR server remotely, just that alone would not

4   hurt Bosch in any way, would it?

5   A.   Just that alone, I can't say.

6   Q.   Okay. There's nothing inherent about somebody doing

7   that that would hurt Bosch, in other words?

8   A.   Yeah, there's a lot going through my mind here. Would

9   hurt Bosch, damage Bosch; what do you mean?

10 Q.   What I'm getting at is the real problem with remote

11   transmission, in your view, is that you told people

12   not to do it and you think they are, is that right?

13 A.   No. The reason --

14 Q.   No?

15 A.   The reason we don't allow this is so that other users

16   can't use someone else's software, right? So when we

17   do the development, and as you know, all the effort

18   that goes into implementing, validating the tool, we

19   have to pay for that by our subscribers. If our

20   subscribers are going to another potential competitor

21   through a remote connection, that's what we're trying

22   to stop.

23 Q.   Okay. So let me ask the question again. Flip to page

24   41, if you would, of your dep.

25 A.   Okay.

1   Q.   I asked you on line 17: Why in Bosch's view is the

2   use of the Bosch software by remote transmission a

3   problem? And you answered: Because that was not an

4   intended use when we created the business model.

5   And then I'm going to flip over to page 42.

6   I said let me ask again, because I'm not in the

7   industry, so maybe I don't understand this, but why is

8   that a problem, in your view, if somebody were to use

9   the software remotely? And your answer was? Because

10   we said not to do that. I read that accurately,

11   didn't I?

12   A.   I'm assuming so, yeah.

13   Q.   Let me ask you about reverse engineering, that's the

14   last alleged breach, right, that Bosch is pursuing?

15   A.   Right.

16   THE ARBITRATOR: I'm going to have you hold

17   that thought for one minute. Actually, lunch is here,

18   so let's take about 40 minutes.

19   (Off the record at 12:17 p.m.)

20   (Back on the record at 12:59 p.m.)

21   BY MR. MONSMA:

22   Q.   Mr. Rose, I think right before we took a break we were

23   talking about the third alleged breach that Bosch is

24   alleging, reverse engineering the Bosch CDR tool.

25   Does that ring a bell to you?

1 A. Yes.

2 Q. Collision Sciences was authorized to use the Bosch

3   software, right?

4 A. Yeah.

5 Q. They didn't steal it?

6 A. No, they didn't steal it.

7 Q. Bosch doesn't own the crash data stored on a car,

8   right?

9 A. You are correct.

10 Q. The owner of the vehicle owns that data?

11 A. Yes, you're correct.

12 Q. It's possible that somebody who knows what they're

13   doing could figure out how Bosch's software works,

14   right?

15 A. Well, yeah, it's always possible, right, if you

16   reverse compile the software and break open databases,

17   you can certainly figure it out.

18 Q. And there could be other ways to figure that out too,

19   if somebody knew what they were doing?

20 A. I don't think so. My opinion is maybe some of the low

21   hanging fruit data elements, yeah.

22 Q. Other companies are working with OEMs to get that

23   vehicle data, right?

24 A. Other companies -- what vehicle data?

25 Q. The data we've been talking about this whole hearing.

1   A.   The crash records?

2   Q.   Yes.

3   A.   Okay. The OEMs that we deal with, they deal -- as far

4   as I know, they don't have license agreements with

5   anyone else to develop a similar tool.

6   Q.   Are Bosch's agreement with OEMs exclusive?

7   A.   Some are; some aren't.

8   Q.   For simplicity, let's stick with the Big Three.

9   A.   Okay.

10 Q.   Are those exclusive agreements?

11 A.   Chrysler is, FCA, at least the U.S. part.

12 Q.   So at least with respect to Chrysler, Bosch has a

13   monopoly, is that right?

14 A.   I don't think we have a monopoly. I mean, the CDR

15   tool -- we work with Chrysler as a vendor.

16 Q.   Does Chrysler work with any other companies as far as

17   you know?

18 A.   As far as I know for the CDR tool, no.

19 Q.   What about GM?

20 A.   No, they don't.

21 Q.   They don't what?

22 A.   They don't work with other companies. We don't have

23   an exclusive agreement.

24 Q.   But functionally, you have, what I would call, a

25   monopoly on getting the data from the OEM?

1   MR. ZELLER: Objection, calls for a legal

2   term.

3   THE ARBITRATOR: Sustained.

4 A.   No, I don't think we have an monopoly, because when

5   you have a -- when you're working with an OEM for

6   making a part, whatever, that doesn't get opened up to

7   only the OEMs; they'll open that up to other suppliers

8   for obvious reasons; for getting competitive pricing

9   and all that kind of stuff.

10 BY MR. MONSMA:

11 Q.   Let me come at it a different way. You testified that

12   your agreement with the Big Three are not exclusive

13   agreements, right?

14 A.   Not all of them.

15 Q.   Other than Chrysler?

16 A.   Right.

17 Q.   Okay. So with respect to the ones that are not

18   exclusive, it's possible those OEMs could be working

19   with other companies --

20 A.   It is possible, yeah, but I do know that GM is not.

21 Q.   Let me ask you to turn to Exhibit B. I'll represent

22   to you that is Bosch's Arbitration Agreement, correct?

23 A.   Yes.

24 Q.   If you would flip to Exhibit A; Exhibit A to the

25   arbitration demand. It's back about 20 pages into

1   that exhibit. That's EULA version 19, correct?

2   A.   19.0, yeah.

3   Q.   That's the contract that you allege CSI breached?

4   A.   Correct.

5   Q.   You have no record of CSI actually accepting this

6   EULA, do you?

7   A.   If they're using software and retrieving data, by

8   inference they've accepted it.

9   Q.   That wasn't quite my question. My question was: You

10   don't have a record of them actually accepting it,

11   right?

12   A.   No, I don't.

13   Q.   And you have no way to track when a user activates the

14   software, is that right; that's not something Bosch

15   does?

16   A.   The fact that those reports are indicating that

17   Collision Sciences was the one doing the download,

18   that comes directly from the activation certificate.

19   So it wouldn't display the Collision Sciences in the

20   CDR report if it wasn't Collision Sciences.

21   Q.   Let me try again. Bosch has no way to track when the

22   user activates the software, does it?

23   A.   No.

24   Q.   Do you still have version 19 of the EULA in front of

25   you?

1   A.   Yes.

2   Q.   You drafted that document, didn't you?

3   A.   I was one of the drafters, yes.

4   Q.   You were the primary drafter, weren't you?

5   A.   Yes.

6   Q.   And you basically pulled this language from other

7   Bosch agreements, isn't that right?

8   A.   Some of it, yeah, because I don't want to reinvent the

9   wheel.

10 Q.   Let me ask you to flip to Exhibit J, if you don't

11   mind.

12 A.   Okay.

13 Q.   Do you have that in front of you?

14 A.   Yes.

15 Q.   This is an e-mail between you and Andreas Huber?

16 A.   Yes.

17 Q.   And Asdarts (phonetic) is Bosch's distributor, right?

18 A.   Yes.

19 Q.   And Andreas is the owner?

20 A.   Yes.

21 Q.   About halfway through the page on Exhibit J, you say

22   to Andreas, quote, we updated EULA in 19.0 to begin to

23   address the situation.

24   You were talking about Collision Sciences,

25   weren't you?

1 A. Yes; them as well as a potential others that were

2   reported to me.

3 Q. And you updated EULA 19.0 to begin to address the

4   reverse engineering situation, right?

5 A. I basically changed the EULA, because we wanted to

6   make it more strong, because we didn't say in the

7   previous EULA that you can't copy and reverse engineer

8   the product, so we needed to very explicitly state

9   that.

10 Q. So prior versions of the EULA didn't address reverse

11   engineering, right?

12   MR. ZELLER: Objection, calls for a legal

13   conclusion.

14   THE ARBITRATOR: Overruled.

15 A. I guess the assumption was on my part that reverse

16   engineering, somebody wouldn't do that. Maybe that's

17   my naivety, but after seeing what's happened in the

18   field, not just with Collision Sciences, it just -- we

19   needed to make it more understood.

20 BY MR. MONSMA:

21 Q. Mr. Rose, my question is: Prior versions of the EULA

22   did not prohibit reverse engineering, did they?

23 A. It did not prohibit -- I guess if that's your

24   perspective, yeah. But my perspective is we didn't

25   build the product so that people can reverse engineer

1   and create a competing product.

2 Q.   Okay. Do you still have your deposition in front of

3   you?

4 A.   Yes.

5 Q.   Pick that up and turn to page 98, please.

6 A.   Okay.

7 Q.   On line 15, page 98, I asked you a question and I'm

8   quoting this e-mail, Exhibit J, quote, we updated EULA

9   in 19.0 to begin to address the situation. Would it

10   be fair to say that versions of the EULA prior to 19.0

11   did not address this situation? And we're talking

12   about reverse engineering. And your answer was: You

13   are correct, yes.

14   Does that refresh your recollection about

15   what prior versions of the EULA did and did not

16   provide?

17   MR. ZELLER: I'm going to object that it's

18   not impeaching because he's not asking the exact same

19   question.

20   THE ARBITRATOR: It's marginal. I'm going

21   to overrule the objection. You can proceed.

22 BY MR. MONSMA:

23 Q.   Let me cut through it. I read your deposition

24   testimony correctly, didn't I?

25 A.   Yes.

1   Q.   And do you have Exhibit E there? That's another copy

2   of the EULA.

3   A.   Okay.

4   Q.   Let me ask you about 2.3.1 again.

5   A.   Okay.

6   Q.   Do you have that in front of you?

7   A.   Yes.

8   Q.   That's the section you introduced to attempt to

9   prohibit reverse engineering?

10   A.   Yes.

11   Q.   Okay. And you copied and pasted that section from

12   another Bosch agreement, didn't you?

13   A.   If I said so, I did, I guess, but again --

14   Q.   Did you or didn't you?

15   A.   I don't recall.

16   Q.   Okay.

17   A.   If you have it in the deposition that I said that,

18   then yeah, I guess I did.

19   Q.   I do. Why don't you turn --

20   A.   I remember saying I used parts of the EULA rather than

21   reinventing the wheel, and this matched what I was

22   trying to communicate.

23   Q.   I asked you in your deposition whether you copied and

24   pasted that section from another Bosch document and

25   you said that you believed you did. Does that help

1   your memory?

2   A.   It could be, yeah.

3   Q.   Okay.

4   A.   So I said I believed I did, right?

5   Q.   You were amending this version 19 of the EULA and you

6   were kind of taking the lead on that, weren't you?

7   A.   Yes.

8   Q.   And that was specifically to address Collision

9   Sciences and what they were doing, wasn't it?

10 A.   Not specific to Collision Sciences. It was part of --

11   there is another -- there were potentially other

12   customers doing the same thing.

13 Q.   Collision Sciences was on your mind when you were

14   drafting this document?

15 A.   Yeah, again, Collision Sciences, but there was also a

16   company in Poland that was doing the same thing.

17 Q.   And I believe you testified earlier that Bosch's legal

18   team was involved in approving this document

19   eventually?

20 A.   Yes.

21 Q.   The document doesn't give a definition of reverse

22   engineering, does it?

23 A.   I don't think so.

24 Q.   And you would agree with me that that term can have a

25   variety of meanings?

1 A. Yeah, I guess that could be right.

2 Q. Section 2.3 --

3 A. Oh, it does say reverse engineering, sorry, in 2.3.1.

4 Q. And it doesn't define that term, does it?

5 A. No, it doesn't.

6 Q. Section 2.3.5 talks about derivative works. Do you

7   see that?

8 A. Uh-huh.

9 Q. And it talked about derivative works of the source

10   code or the object code. Do you see that?

11 A. Uh-huh.

12 Q. You were amending this document, you certainly had the

13   opportunity to, but Bosch did not decide to define the

14   term derivative use, did you?

15 A. Derivative --

16 Q. I'm sorry, derivative works, that's not a defined term

17   in the contract, right?

18 A. No, it's not.

19 Q. Let me ask you to flip to Exhibit J again; that's your

20   e-mail with Mr. Huber. He responds to your e-mail

21   where you say you amended the EULA in version 19 to

22   prohibit reverse engineering. And he says in part,

23   quote, from my past experience, this is a huge gray

24   area. He's talking about reverse engineering. Do you

25   disagree with that?

1   MR. ZELLER: Objection, hearsay.

2   THE ARBITRATOR: Overruled.

3   MR. MONSMA: I'm asking for his

4   understanding.

5   THE ARBITRATOR: You can answer.

6 A.   I don't agree with that. I didn't say it.

7 BY MR. MONSMA:

8 Q.   That wasn't my question.

9 A.   Andreas said it.

10 Q.   Let me --

11 A.   I don't agree with it.

12 Q.   I'll try not to talk over you and you do the same for

13   me, please.

14   THE ARBITRATOR: There has been a bit of

15   that back and forth, so make sure he finishes his

16   question and he will do the same for you, to make sure

17   you finish your answer.

18 BY MR. MONSMA:

19 Q.   It's an unnatural way to communicate, so I apologize

20   for that.

21   My question was: He says from my past

22   experience this a huge gray area. And my question to

23   you was: Do you disagree with that?

24 A.   No. I do disagree with that.

25 Q.   Okay. You disagree that reverse engineering is a huge

1   gray area?

2   A.   Yeah. Mainly, because of my experience, I haven't had

3   a lot of experience. I just have to either trust what

4   he says or I have to go question it myself, and I

5   haven't.

6   Q.   But you would agree with me you know enough about

7   reverse engineering to agree that that term can have

8   multiple meanings, right?

9   A.   It could, yeah.

10   Q.   Let me ask you to flip to Exhibit D. Tell me when you

11   have that in front of you. Do you have Exhibit D

12   pulled up?

13   A.   Yes, I do.

14   Q.   Do you recognize this document?

15   A.   Yes.

16   Q.   What is it?

17   A.   The responses to the first interrogation (sic),

18   basically.

19   Q.   I'm not trying to trip you up. I'll sort of

20   short-circuit this. I'll represent to you these are

21   Bosch's discovery responses; this is something that

22   Bosch provided to us in discovery.

23   A.   Okay.

24   Q.   And I want you to look -- there's a question number

25   10. It says quantify all damages you allege in

1   connection with your demand for arbitration. Do you

2   see that?

3 A. Yes.

4 Q. Let me ask you: You testified a lot this morning

5   about all of the effort and time and expense that

6   Bosch put into developing a CDR tool.

7 A. Yes.

8 Q. Do you remember testifying about that?

9 A. Yes.

10 Q. That is isn't part of what Bosch is trying to get in

11   term of damages in this case, is it?

12 A. No.

13 Q. It's also not trying to get lost profits, is it?

14 A. No.

15 Q. Do you remember also this morning testifying about one

16   of your concerns about what Collision Sciences was

17   doing was that it might cause people to question the

18   data retrieval entry?

19 A. Yes.

20 Q. You remember talking generally about that?

21 A. Yes.

22 Q. And I think I heard you say one of your concerns was

23   that if anything is wrong in, let's say, Collision

24   Sciences' reports, that that might cast doubt on

25   Bosch. Is that a fair summary of what you were

1   testifying about?

2   A.   It would impact us, right, because if the CDR tool is

3   no longer used in court, then what is it going to be

4   used for?

5   Q.   My question though is: That hasn't happened, has it?

6   A.   Since Collision Sciences started doing this? As far

7   as I know, I don't know.

8   Q.   You don't have any evidence --

9   A.   I don't have any evidence that's happened.

10 Q.   You also don't have any evidence that a customer has

11   lost a case because of that issue, do you?

12 A.   No, I don't.

13 Q.   Bosch's sales have not dropped because of anything

14   that CSI did, have they?

15 A.   I can only speculate, because obviously we didn't go

16   back and ask those customers why they didn't choose

17   our tool.

18 Q.   You have no evidence of that happening?

19 A.   Just based on the numbers, you know, what we were

20   expecting out of the insurance business, and we didn't

21   -- and based on what our distributor said, basically

22   saying that certain insurance companies wanted to do

23   go -- they went with the Collision Sciences' tool.

24 Q.   You're speculating on that, aren't you?

25 A.   Based on my distributor's --

1 Q.   Thank you.

2   THE ARBITRATOR: I don't think he's

3   finished with his answer. Go ahead.

4 A.   Based on my distributor's feedback, as well as other

5   feedback from the field, even in Europe and Africa,

6   they basically used Collision Sciences' tool in place

7   of ours.

8 BY MR. MONSMA:

9 Q.   And you're speculating --

10 A.   And that's why we got complaints from Dr. Berg saying

11   that he's basically saying he's losing sales because

12   of the fact that Collision Sciences is providing a

13   competing solution.

14 Q.   Let me make sure that I understand what Bosch --

15 A.   That's all I have to go by.

16 Q.   Okay. Let me make sure I understand what your

17   testimony is. Bosch is not claiming lost profits

18   here, right?

19 A.   No, we're not.

20 Q.   And you're not aware of any customers that you've lost

21   because of Collision Sciences, are you?

22 A.   Again, only from the perspective from our distributor

23   saying they have lost customers. He didn't elaborate

24   which customers. So American Family, for example,

25   they had one license back in 2019 and they chose not

1   to renew.

2   Q.   And you're speculating that that has something to do

3   with Collision Sciences, aren't you?

4   A.   I don't have any evidence to back that.

5   Q.   You can't identify, in fact, a single customer that

6   has left Bosch to go to Collision Sciences, can you?

7   A.   If I were to figure that out, I could probably find

8   out, but I didn't pursue to find out who -- which

9   exact company switched over to their tool.

10   Q.   So is the answer to my question there, no, you cannot

11   identify a single customer that's gone from Bosch --

12   A.   No, I cannot.

13   Q.   Thank you. Similarly, you don't have any evidence

14   tying any conduct that Collision Sciences supposedly

15   did to an impact on Bosch's sales, correct?

16   A.   Well, just the lack there of sales that we were

17   expecting from insurance business.

18   Q.   Nothing to tie that loss of sales to Collision

19   Sciences, right?

20   A.   No, I don't have any exact evidence for that.

21   Q.   In fact, you don't have any evidence for that, do you?

22   A.   I don't have it right now, no.

23   Q.   In fact, you've never had it, right?

24   A.   I could put it together, but --

25   Q.   But you didn't?

1 A. I did not, no.

2 Q. So your testimony is that you could have put that

3   together in the three years this arbitration has been

4   going, but you just didn't?

5 A. You're correct.

6 Q. Can I ask you to look at page 77 of your deposition.

7 A. Okay.

8 Q. Line 3, I asked you: You don't have anything tying

9   any impact on Bosch's sales numbers to anything that

10   Collision Sciences did, right? And your answer was:

11   No, I don't have anything, no.

12 A. Okay.

13 Q. I read that right, didn't I?

14 A. Yes, you did.

15   MR. ZELLER: I'm going to object. I don't

16   think it impeaches.

17   THE ARBITRATOR: Sustained.

18 BY MR. MONSMA:

19 Q. So you also don't have any evidence that Collision

20   Sciences has affected Bosch's market position in any

21   way, do you?

22 A. No, I don't.

23   MR. MONSMA: I don't have any other

24   questions.

25   THE ARBITRATOR: All right. Redirect?

1   MR. ZELLER: I just have a little bit.

2   RE-EXAMINATION

3 BY MR. ZELLER:

4 Q.   Mr. Rose, do you remember Mr. Monsma asked about

5   whether the -- the evidence of competitive nature by

6   Collision Sciences you had was before 2019; do you

7   remember that line of questioning?

8 A.   Yes.

9 Q.   You haven't seen most of the evidence in this case,

10   have you?

11 A.   Correct.

12 Q.   Do you know why that is?

13 A.   Because I'm not focused on it and nobody has provided

14   me information on it.

15 Q.   Do you realize most of the evidence was marked

16   attorneys' eyes only?

17 A.   Yes.

18 Q.   Would you consider if Collision Sciences supplied a

19   Bosch report through data retrieved via its CrashScan

20   app as a competitive event?

21 A.   Yes.

22 Q.   Even if Collision Sciences didn't charge for the Bosch

23   report?

24 A.   Yes.

25 Q.   Why would that be competitive?

1   A.   Because it shows something that they're capable of;

2   that they could possibly sell -- obviously, they could

3   sell to that customer.

4   Q.   To your mind or in your view, what is the only way to

5   get an authorized Bosch report?

6   MR. MONSMA: Objection, foundation.

7   THE ARBITRATOR: Overruled.

8   A.   You have to own or use a CDR tool hardware and current

9   subscription of the software, and obviously the

10   vehicle that you're connecting to, whether it's a

11   direct connection or an OBD connection.

12   MR. ZELLER: I don't have any other

13   questions.

14   THE ARBITRATOR: All right.

15   MR. MONSMA: All set.

16   THE ARBITRATOR: Mr. Rose, you are excused.

17   We'll put somebody else in the hot seat in just a

18   moment here.

19   Steve, call your next witness.

20   JOSHUA HELFINSIEGEL,

21   was thereupon called as a witness herein, and after

22   having first been duly sworn to testify to the truth,

23   the whole truth and nothing but the truth, was

24   examined and testified as follows:

25   MR. ZELLER: Let's go off for a second.

1   (Off the record at 1:28 p.m.)

2   (Back on the record at 1:28 p.m.)

3   EXAMINATION

4   BY MR. ZELLER:

5   Q.   Could you please state your name?

6   A.   Joshua HelfinSiegel.

7   Q.   Mr. HelfinSiegel, what do you do?

8   A.   I am a litigation consultant and expert witness for

9   DisputeSoft; it's a consulting firm based out of

10   Bethesda, Maryland.

11   Q.   What is your title at DisputeSoft?

12   A.   I'm not sure what it is, because they change it on the

13   marketing team, on the website, but I'm a senior

14   consultant and I've been with the firm for a long

15   time, since late 2010 or 2011 or whatever they say to

16   make it more impressive.

17   Q.   Can you describe the subject matter of what do?

18   A.   Sure. So DisputeSoft has three main project areas:

19   IP, so that's patents, copyright infringement, trade

20   secret misappropriation, that type of litigation

21   involving software. Second is project failure,

22   software project failure. So company A hires company

23   B to come in, builds a software, it fails, experts are

24   needed on both sides; what happened, who's responsible

25   for which issues. And then the last subject area is

1   digital (inaudible), so computer forensics, analysis

2   of hard drives, recovery of data, that sort of

3   analysis. So those are the three main areas that

4   DisputeSoft works in.

5 Q. What is your specialization?

6 A. So mostly I'm specialized in IP, so copyright, trade

7   secret, computer patents, but also computer forensics.

8 Q. And how long have you been practicing in that field?

9 A. The field of computer forensics?

10 Q. Yes.

11 A. So I've been certified as an EnCase certified

12   examiner, which is a software tool used for customer

13   forensics, basically says this person knows how to do

14   forensics at a competent level, since 2012, and they

15   make you re-up every three years with continued

16   education.

17 Q. Speaking of education, what is your educational

18   background?

19 A. I have a bachelor's degree in computer science from

20   the Wesleyan University in Connecticut.

21 Q. And have you conducted personal exams of computers as

22   part of your duties?

23 A. I'm going to assume you mean forensics?

24 Q. Yes.

25 A. Yes, that is part of my job duties.

1   Q.   How many times do you think you've had to examine

2   computers forensically?

3   A.   I'm sure it's listed on my CV under the forensic

4   matters, but some cases have a large number of

5   computers. So there's one on there, Ear versus Atko

6   (sic) where I had something like 20, 22 system images

7   and I had to examine each one for a particular issue

8   in that case. So in terms of matters, somewhere

9   between 10 and 20, I would guess, but in terms of

10   machines, it's a higher number, in terms of computer

11   images.

12   Q.   Have you provided testimony in court before?

13   A.   I have.

14   Q.   How many times?

15   A.   So I've testified at -- again, I don't know what they

16   call it in Canada, but at least one hearing and then a

17   trial, and then I've also testified in federal court

18   in Tennessee at a hearing and a trial, so four times.

19   Q.   You've had your deposition taken, I assume?

20   A.   Six or seven times. I had one on Friday. It's been a

21   good week.

22   Q.   And have you ever been found not qualified by a court

23   or --

24   A.   No.

25   Q.   Do you have a resume?

1   A.   I do.

2   MR. ZELLER: I can put that into evidence,

3   if you want.

4   THE ARBITRATOR: Sure.

5   MARKED FOR IDENTIFICATION:

6   DEPOSITION EXHIBIT 181

7   1:32 p.m.

8   BY MR. ZELLER:

9   Q.   I believe it's a little outdated.

10 A.   Yes, but it's close.

11   MR. ZELLER: Pursuant to the commercial

12   rules of AAA, I'd like to contend Mr. HelfinSiegel's a

13   qualified expert in the field of computer forensics.

14   THE ARBITRATOR: Any objection?

15   MR. MONSMA: No.

16   THE ARBITRATOR: All right. He shall be so

17   recognized.

18 BY MR. ZELLER:

19 Q.   Mr. HelfinSiegel, you were asked to do a couple things

20   in this case; what were you asked to do?

21 A.   So initially I was asked to perform a software audit.

22   There were some questions about how respondent was

23   using Bosch's software and Bosch wanted to find out

24   exactly how the software was being used, if it was

25   being -- if it even was installed on a computer, and

1   if it was being used in a way that Bosch believed was

2   fair and accurate or if it was being used in a way

3   that was contrary to, again, what Bosch's rights were.

4   Q.   You did eventually conduct an audit; yes?

5   A.   I did.

6   MR. ZELLER: If it would help, Tim, whether

7   it's admitted, the audit report.

8   MR. MONSMA: Sure.

9   MR. ZELLER: That is Exhibit 39.

10   BY MR. ZELLER:

11   Q.   So you performed an audit and at the conclusion you

12   prepared a report?

13   A.   That's correct.

14   Q.   Is this the report?

15   A.   This appears to be it.

16   Q.   Can we walk through first at a high level what you did

17   -- what the audit encompassed?

18   A.   Sure. I was supposed to search for evidence

19   indicating presence or use of Bosch CDR software by

20   respondent in the audit systems that were made

21   available to me. The audit systems that were made

22   available to me were -- it was one computer image that

23   I referred to as the audit laptop, and then there were

24   three source code repositories, one each corresponding

25   to a cell phone app for Android, cell phone app for

1   IOS, and then it seemed like back ends for IP service

2   that was tying everything together. And lastly, I was

3   provided access to Amazon Web Services for Collision

4   Sciences, which included some databases and some other

5   web applications. So that was the first task, was to

6   search for the presence or use of Bosch CDR software.

7   The second was to search for evidence of

8   quote, unquote, reverse engineering of the software.

9   Third was to search for evidence to

10 determine how the CrashScan software is updated with

11 new vehicles insofar whether the process utilizes data

12 from Bosch CDR software.

13   And then lastly, index and search a list of

14 keywords and review the results as related to those

15 three tasks. And obviously, I reserve the right to

16 supplement, because you usually want to do that

17 especially when it's early on; you never know when

18 more can come out.

19 Q. All right. Can you describe the general process that

20   you did to conduct the audit?

21 A. Sure. So there were a few hurdles to getting

22   connected, but we did get connected. I used a

23   software tool called dtSearch to index the audit

24   laptop and search for a number of agreed upon

25   keywords, as well as additional keywords that I

1   provided to counsel after the audit was done.

2   I reviewed thousands upon thousands of hits

3   for those keywords in order to try to understand and

4   process those four elements in the scope of work on

5   how Bosch's CDR software was used in relation to

6   Collision Sciences' systems.

7   One of the terms of the audit required me

8   to record video of every activity that I performed on

9   the audit system repository and the Amazon Web

10   Services; that was an additional layer of overhead.

11   It can take a bit longer when you have to go back to

12   review hours of footage to figure out what's done

13   rather than going to check the image to see what the

14   search results were, so that added a layer of

15   complexity, but it was fine.

16 Q. You initially said you had some problems getting

17   connected?

18 A. There was some issues with TeamViewer, which ended up

19   being the tool I ended up using for remotely accessing

20   and viewing the data, but everything was ironed out.

21 Q. Maybe we're missing about why you had to remote

22   access?

23 A. Oh, so originally I requested a forensic image, which

24   is what I'm used to working with on these sort of

25   cases. Forensic image provides additional value

1   rather than a live system, because often it will

2   include information about deleted data, which I wasn't

3   sure if that would be relevant or not at the time, but

4   it's always helpful to be able to search to see if

5   there are any useful bits of information in the trash,

6   so to speak, and that evidence is not always available

7   in a live image.

8   Q. So let's go over what the findings of the audit were.

9   A. Okay. So first finding was related to that question

10   of whether the Bosch CDR software was installed on the

11   laptop. It was. There were logs and registry entries

12   and a lot of other metadata and computer information

13   indicating that it was installed a lot of times. It

14   looked like there might have been an automated process

15   to install and remove it. I don't know why and I

16   didn't want to speculate on why that was happening,

17   but there were versions from between 16.4 all the way

18   through 21.5 of the Bosch CDR software that had been

19   installed on that audit laptop.

20 Q. How were you able to tell what versions?

21 A. It was included in the log of the installation. I

22   can't recall if it was also in the log of the

23   uninstalled.

24 Q. And we'll just go through the summary really quick.

25 A. Sure.

1   Q.   So what were the other findings?

2   A.   The other findings was that respondent incorporated

3   the CDR software or the CDR-Replay tool. I found the

4   video, which I'm sure we'll be talking about from

5   April 3rd, 2018, which demonstrated how the CDR-Replay

6   tool from Respondent was used. That was really the

7   most useful bit of evidence, because it showed in real

8   time exactly how Bosch's CDR software fit into the

9   processes in this replay tool that I'd been seeing and

10   referenced in documents, and were displayed step by

11   step how the process went, what CSI was looking at,

12   what pieces they had written. There were some python

13   code that makes a special file; there's a lot of steps

14   to it that are described by a few of the other

15   documents. But they say a picture is worth a thousand

16   words, so I don't know how much the video is worth,

17   but it's probably more. So that was one of the big

18   findings from the audit.

19   Q.   Go ahead. Keep going.

20   A.   Sure. Regarding the incorporation, there was also a

21   bus-sniffing tool named BUSMASTER that was installed;

22   it's part of this process of replaying CDR. It looks

23   like it's used to eavesdrop on the messages from --

24   into the Bosch CDR software. There were some C++

25   files related to BUSMASTER and CDR-Replay that they're

1   not reviewed during the audit. I put it this way

2   because I wasn't sure if they were there or not at the

3   time I wrote this, and I might not have reviewed them.

4   There were several things that I did not know the

5   importance of at the time of the audit that became

6   more much clear later on.

7   And then there were scripts used to

8   automate the running of the Bosch CDR software on the

9   laptop, related to a tool called Audio Hit. From all

10   the evidence I saw, it looks like it was an early

11   attempt to run the software without any human

12   intervention. I don't know if it was maintained.

13   Most of the evidence doesn't suggest that it was

14   continued past about 2016. I think I have some

15   answers for Tim on that from my depo as well, as I'm

16   sure he'll give to me.

17   And then next there's evidence on the

18   laptop related to potential reverse engineering of the

19   Bosch CDR software. We're in agreeance that the

20   definition of reverse engineering is going to be very

21   important, and I certainly acknowledge that in my

22   audit and in my expert report. It's unfortunately

23   going to be up to the Honorable Cranmer here for that

24   decision. But potentially reverse engineering of the

25   Bosch CDR software using PyCharm, which is a

1   Python-integrated development environment, IDE, as

2   well as from the data that they were retrieving and

3   viewing coming out of the Bosch software using

4   BUSMASTER; those are all that could be considered part

5   of reverse engineering efforts.

6   And then Respondent installed and used

7   Bosch CDR software licensed to others. The laptop

8   contained Bosch CDR software license files for several

9   versions of the Bosch CDR software to companies that

10   were not responding; namely, StreetDelivery and also

11   BioLogic Forensics. And then there was also one

12   occasion where the software licensed to StreetDelivery

13   was run on the laptop, audit laptop, on July 19, 2022.

14   The only reason I know that is because it crashed and

15   when it was crashed, there was a Windows log that is

16   generated that says, hey, this program crashed, it was

17   CDR from Bosch, it was version 21.5.1. So that number

18   could be much higher, but the evidence on the laptop

19   only showed that one version crashed on that date.

20   Let's see, Respondent's source code

21   repositories did not include a repository for

22   CDR-Replay controller. Again, I don't think I

23   understood the importance of CDR-Replay at the time of

24   the audit or the time of the requests. So it was

25   mentioned here, the CDR-Replay controller was a

1   repository, mentioned I think in passing in some

2   e-mails I've seen from Steve. But I think it probably

3   would have been useful, but it's hard to say. I don't

4   know what it contained, but it wasn't produced and

5   that's all the finding says.

6   And then lastly -- I know it's a lot -- the

7   CS production database appears to be based an expanded

8   from the one shown in the April 3rd, 2018 video. That

9   finding is based on comparing the visible database

10   fields from the video with fields that I found in the

11   database in Amazon Web Services and there's a pretty

12   reasonable mapping of field data from what's

13   available; enough to say that it's more likely than

14   not that at least that table was based on the table

15   shown on the video.

16   Q.   Okay. That's a good summary. I don't want to have

17   you read from this. We'll go through and talk about

18   it --

19   A.   Sure.

20   Q.   -- but the evidence that the Bosch CDR software was

21   installed, where did that come from?

22   A.   That came from the DT Search and the logs that I found

23   of installation. I'm sure it's covered here, but I

24   found hits. The way that DT Search works is it

25   indexes all the files it can and then it will show

1   hits on search terms. So I went through -- to the

2   files where there would be hits for search terms for

3   CDR or CDR software or Bosch or whatever the term was,

4   and then I found 325 instances of these individual log

5   files. There was a log every time it was installed or

6   uninstalled. I believe those logs were just of the

7   installs.

8   Q.   And the log files indicate what version?

9   A.   It was a variety of versions. So from 16.4 through

10   21.1.5.

11 Q.   But you could tell what version --

12 A.   The log tells you what version it is within the log

13   itself.

14 Q.   Okay. You mentioned crash file -- a crash that

15   occurred once. Was there any other data like that

16   that showed different installations?

17 A.   There were a few different crash dumps. A crash dump

18   is something that happens in Windows where an

19   application crashes and a developer has chosen to

20   implement it. It will make a file that tells you,

21   hey, this application crashed or hung. Windows will

22   generate a file that basically says this application,

23   you know, we were waiting for it to come back and,

24   hey, it came back; that's a hang. We were waiting for

25   this application, it never came back, it disappeared;

1   that's a crash. There were logs of a few different

2   versions of the Bosch CDR software happening, crash or

3   hung.

4   Q. Let's move on to CDR-Replay before we go through the

5   video. You can tell us what you found what CDR-Replay

6   is.

7   A. Sure. So my understanding of the CDR-Replay tool from

8   Respondent is that it takes a quote, unquote, trace

9   captured from a vehicle and it allows Respondent to

10   quote, unquote, replay that trace as if it were

11   connected to a vehicle in order to generate a Bosch

12   CDR report using a conjunction of tools, including the

13   Bosch CDR software.

14 Q. Exhibit 38 is the video. Would it be best to play the

15   video and then go through your demonstrative?

16 A. Whatever is easiest for you.

17 Q. Actually, it's Exhibit 37.

18   (Playing video.)

19 BY MR. ZELLER:

20 Q. We just saw the video. I understand you made a

21   demonstrative to walk through the video.

22 A. Yes.

23 Q. Do you want us to direct this --

24 A. Sure.

25 Q. -- of what we saw?

1   A.   So this demonstrative is comprised of screenshots from

2   that video that we just watched in full, just

3   basically pausing at each action. So it's the same

4   content just in a format that's not going too fast for

5   the court reporter or anyone else. So we can start

6   from the slide. So would it be possible to zoom in?

7   All right. So this is from the very start

8   of the video. The user that's generating the video,

9   again, this is from what I believe to be Mr. Brian

10   Hsu's computer. I believe it was an image of that

11   computer that was made available to me. The user name

12   was Brian. So user navigates to

13   app.collisionsciences.pa/phdadmin; this is a database

14   interface from the web for PostgreSQL; it's just a

15   type of database.

16   Q.   And you said this is a form of database?

17   A.   It's a database server.

18   Q.   Okay.

19   A.   A database engine, databases and tables in it. This

20   is just one type of database. Microsoft SQL, MySQL,

21   Postgre is just another type of database.

22   This is the log-in page for the database,

23   and we can go to the next one.

24   It's going to be a little repetitive here,

25   but I will try to talk slow. This is the user logging

1   in to the database pressing the log-in button, user

2   name and no password. Click log-in. And then go to

3   the next slide.

4   After the user is logged in to the

5   database, we have this database named cdr, all lower

6   case, on the left. They're clicking on the tables.

7   So you can see the tables that are in the database,

8   there's a default Postgre table and then there's also

9   a CDR database table. And then we can go to the next

10   one.

11   So they click into the CDR, and then we're

12   at the CDR_data table and then they click on browse to

13   see the data inside. And we can go to the next one.

14   So this is the data inside of the database.

15   So in the video this took about five seconds, so I've

16   already spent more on it just on this slide. The user

17   goes and finds a particular entry in this CDR data

18   table for a 2012 Toyota Camry. I think it's the last

19   entry, and they click on hit in order to view the

20   data.

21 Q. Before you do that, were you able to tell what data

22   you see here; what this data is?

23 A. This data appears to be -- well, this is data in the

24   Postgre database, April 3rd, 2018, whenever this video

25   was made. The CDR_data appears to be json data

1   gathered by Collision Sciences from vehicles. I don't

2   know looking at the data if it came from being

3   connected to cars, what app was used, how that was

4   generated, but this is, I believe, the CDR data is

5   what we called the quote, unquote trace for this

6   project.

7   Next slide.

8   Q.   What does the VIN and vehicle represent in this

9   database?

10   A.   I believe the VIN is the VIN number of the vehicle

11   from which the trace is captured, and then the vehicle

12   appears to describe the year, make, and model of the

13   vehicle.

14   Q.   Okay.

15   A.   Now the user has clicked into the record for the 2012

16   Toyota Camry and then they end up going down to the

17   CDR_data field, which, again, it's typed json. They

18   click and select that whole field, which is partially

19   cut off. They copy it and then they paste it into a

20   json formatter to make it pretty and make it

21   compatible with the next steps they're going to do.

22   So we can go to the next slide.

23   Here we are at the json formatter. The

24   user copies their json data, they paste it in on one

25   side and then they format onto the right side, and

1   that pretty, beautified code they copy and paste into

2   an input.json text file, which is going to be used to

3   help generate the CDR-Replay. We can go to the next

4   one.

5   So here's the input.json file. You can see

6   it's in Brian's folder, PyCharm projects. Again,

7   PyCharm is a tool used to write source code, which is

8   a programming language, that's in a json processor

9   folder. The file name is input.txt and it's a json

10   file. And then he opens that and we go to the next

11   slide.

12   I know it's a lot. I apologize for the

13   detail here, but it's good to get it all on the

14   record.

15   Here's the input.json file. It's opened in

16   a program called Notepad++, which is a wonderful text

17   editor, and I recommend it to everyone. See, he

18   agrees. And then you paste it in and then saves the

19   file, and then closes the file. Then we can go to the

20   next slide.

21   So now we are over in -- I believe this is

22   in PyCharm. We are in replayfilemaker.py. So this is

23   a Python script file that is designed to make a

24   special replay file, which is necessary to run the

25   CDR-Replay based on the input.json file text that we

1   just saved into the text file. This screenshot is of

2   the user clicking run replay file maker, and that runs

3   the code in the file and generates a replay file in

4   text. Then we can go to the next one.

5   So as stated, there's the replay,

6   filetoreplay.txt file, that's the output from the

7   replay file maker. The user moves it to the

8   CDR-Replay folder from where it is. They get a

9   prompt, which is on next screen. Go to the next

10   slide, which says are you sure you want to override

11   it, there's already a file there, and they say yep, I

12   want to put this new one in; please do that. And then

13   we go to the next slide.

14   Now we are in the CDR-Replay folder. I'm

15   not sure quite where the cursor is. Can you scroll

16   down a little bit more, please? I think this is the

17   VIN part that I'm not 100 percent. Yes, so this is a

18   file called vin.txt, again edited with Notepad++. And

19   on the next screen you'll see what comes up when

20   that's done.

21   Oh, that's right, he doesn't go straight --

22   he goes to grab the VIN from the database. So the VIN

23   for that same 2012 Toyota Camry, selects the VIN

24   number, copies the VIN number, and then pastes it into

25   the vin.txt file, which should be on the next slide.

1   So it's a lot of steps that all happen

2   very, very quickly. And then the user saves the

3   vin.txt, and then we go to the next one.

4   So now we're getting into more of the tools

5   and applications that are running. So this whole time

6   at the bottom of the window there are several programs

7   open: One of them is BUSMASTER, Bosch's CDR tool,

8   there's the Chrome window for the database, folder for

9   CDR-Replay, Notepad++, and PyCharm. So those are

10   almost all things we talked about already except for

11   BUSMASTER and the Bosch crash data tool. Right now

12   the user brings up the BUSMASTER window, which was

13   open, and brings it into focus and then clicks

14   connect. Next they bring back up the Bosch CDR

15   software. If you scroll down, you'll see the version

16   from this video was version 17.7, which I know is

17   relevant for various reasons related to EULAs, but

18   this is the version that was being used at the video.

19   You can go to the next one.

20   And then the user puts these two folders

21   side by side so that they can see what's happening in

22   BUSMASTER alongside what's happening in the Bosch CDR

23   software, and then they click new on the Bosch CDR

24   software. When they click new, Bosch software prompts

25   them to select the brand. They select Toyota, so

1   we've got our lovely, nice, reliant 2012 Toyota Camry.

2   We can go to the next one.

3   Then user presses the button to read the

4   VIN from the vehicle. Then you can go to the next

5   slide.

6   Now the Bosch software is attempting to

7   read the VIN from the vehicle here. And you can go to

8   the next one.

9   And then a stream of data starts coming

10   across from BUSMASTER as it's listening to the

11   messages that are going across, and also see in the

12   trace window the VIN has populated for BUSMASTER on

13   the left. It has also populated inside the Bosch

14   tool. So the VIN was properly retrieved.

15   And then we get to a screen on Bosch where

16   you need to just -- if you choose to, you can enter a

17   user or case number. The imaging date is

18   automatically populated. The crash date. The user

19   here just clicks done.

20   So after that, the user clicks on the

21   airbag module, that blue icon up there with an airbag

22   inflating in front of a person, and we go to the next

23   one. We're almost there, guys. I know it's dry.

24   And then it says reading data for module,

25   and then you can see some more security access keys

1   have populated in the trace window, and BUSMASTER is

2   continuing to populate data. I think it takes three,

3   possibly four, pass-throughs, and then we get to the

4   next slide.

5   It asks if you want to save the recovered

6   data; the user clicks no, and then we get to the next

7   one.

8   And the Bosch CDR report has been

9   generated. If you zoom in on the report, you can see

10   it lists the version imaged with as well as the

11   reported with CDR version, which Bill Rose was talking

12   about earlier. There's different versions. We can

13   see the software was licensed to Collision Sciences.

14   They clicked the airbag control module. And this is

15   the Bosch report that has been generated. Again, this

16   is CDR-Replay. I would assume this was done without

17   being connected to a car, because the json data was

18   pulled from the database, and a lot of documentary

19   records suggest this is how the replay data was used.

20   I think the next few slides might be more

21   of the report, but it includes the hex data. The user

22   just opens the report and scrolls through apparently

23   to validate the data in the report, and there's the

24   hexadecimal data. That's it. Fun for the whole

25   family.

1   Q.   Did you find information on the computer that helps

2   shed light on the meaning of the video?

3   A.   Yes.

4   Q.   What did you find?

5   A.   The most useful document I found was a document called

6   Summary of Code. It appeared to be put together by

7   Respondent sometime after they had gone through some

8   efforts to build a CDR-Replay tool. Based on the

9   contents on its face, it appeared to be attempting to

10   understand and reconstruct what an earlier developer

11   had provided for them and explain what each piece of

12   the software was to do. So there's an API, Serverus

13   and several other elements that are all listed in the

14   report. There were notes and a lot of other documents

15   related to developers on that computer. Page 21 is

16   helpful as it describes CDR-Replay.

17   Q.   In the notes?

18   A.   This is from the summary.

19   Q.   Right. I think that all went into your explanation

20   here about your understanding --

21   A.   Yes, I believe so.

22   Q.   I think we can move on to the other parts of the

23   audit.

24   A.   Sure.

25   Q.   We'll talk about CDR-Replay in particular when it

1   comes to your opinion, okay?

2   A.   Understood.

3   Q.   So other things that you found on the laptop, one of

4   them that was running other versions of Collision

5   Sciences -- or Bosch software, right?

6   A.   Correct. There was one, like I said, there could have

7   been more instances of this occurring, but logs are

8   only made under certain conditions, so there was one

9   crash log of Bosch CDR software version 21.5.1 run on

10   the laptop on July 19th, 2022, and that instance was

11   licensed to StreetDelivery and not Collision Sciences,

12   and that comes from the crash dumps on the computer

13   itself. So they ran it and it crashed for some

14   reason, and it generated that report and that report

15   included information about StreetDelivery and the

16   versions.

17 Q.   And you found evidence of other versions licensed to

18   other individuals, is that right?

19 A.   Not running. There were licenses present, but this

20   was the only one where I could say for certain that it

21   was run, because in order to crash, it needs to run.

22 Q.   Tell us about the -- what you found on attempts to

23   automate the Bosch software.

24 A.   Sure. So I found evidence of these AU3 files, which,

25   again, appeared to be part of an automation tool

1   called AutoIt. It appears to be just a tool for

2   basically creating macros that will allow you to

3   automate anything. So there are files that appear to

4   be automating or attempting to automate the running of

5   the Bosch CDR software using AutoIt on the laptop.

6   Again, I didn't see -- I do think it's in my depo

7   testimony -- I didn't see anything past 2016 in terms

8   of these efforts, in terms of the last modified dates

9   in those files, but there appeared to be an effort

10   going on at least up and until that time.

11   Q. You also say that you found evidence of potential

12   reverse engineering. Can you explain that?

13   A. Sure. So potential reverse engineering has to do with

14   your definition of reverse engineering obviously, but

15   some definitions of reverse engineering: simply

16   trying to figure out how something works and to make a

17   competing product could qualify as reverse

18   engineering.

19   Now, I'm not here to offer any legal

20   opinions, because if I ever do that, I'm done, but I

21   like to go through and offer from a technical

22   perspective does this appear to qualify as reverse

23   engineering, and it really does depend on how you

24   define it.

25   So if you define it as trying to really get

1   into the nitty-gritty of understanding how Bosch

2   software works, trying to figure out what it's doing,

3   how it's doing what it's doing, and to make something

4   that can do the same thing, I think that could

5   qualify. Again, all depending on your definition.

6   I will say that the documents I've seen as

7   well indicate that Respondent at least believed that

8   they were reverse engineering, obviously separate from

9   any of the legal ramifications of that, at least in

10   the common use of the term. I've seen e-mails and

11   other documents in the evidentiary record that, yes,

12   we have reverse engineered this or we're trying to

13   reverse engineer this, or we're doing that. So I

14   found evidence of that.

15   Again, the BUSMASTER tool is what lets you

16   listen to those messages coming out from Bosch and try

17   to figure out what magic things you need to do in

18   order to get certain responses back and vice versa;

19   what all the hex data means and how to format it and

20   how to talk to these devices and get the right

21   messages back. So BUSMASTER, documentary record.

22   Interestingly, there was a Boschcdr.dbc

23   that at least used to exist and didn't exist anymore

24   at the time. So this is one of those instances where

25   having a forensic image might have been useful. I

1 don't know if that file would have been recoverable,

2 but a DBC might be a database file. I just don't know

3 the architecture of how Bosch handled their files. It

4 could be not related, but that was one of the files

5 that I thought was interesting enough to mention in

6 this audit report.

7 Q. Was there any other evidence of potential reverse

8 engineering that you found?

9 A. So there were a few spreadsheets that appeared to

10 contain parts listings. I know I had a conversation,

11 I think it was with Bill Rose or just back and forth,

12 that there was certain prefixes that are only used by

13 Bosch and not by anyone else. This is in paragraph

14 62. So there's U.S. and Canada, there's like 75010,

15 75020, those prefixes, then there's 0W310, 0W320;

16 certain prefixes that are used by Bosch but not, at

17 least from my recollection, by the OEMs. So that was

18 something that counsel and the end client had asked me

19 to look for to see if there were these Bosch

20 fingerprints in any of the materials, and those

21 materials were found in the spreadsheets containing

22 those part numbers on the laptop.

23 There was also a Toyota part engine parser

24 written in Python. And again, I mentioned before

25 there were a lot of (inaudible) notes in the .org

1   files which appeared to describe plans for cracking

2   security keys for Toyota, which, again, I personally

3   think that would fall into the level of trying to

4   reverse engineer something if you're trying to crack

5   security keys, but that's my opinion; that's not

6   whether it is or is not.

7   Plan.org, they're trying to read to

8   unsecured PIDs, replay PIDs into CDR; that may have

9   been early ideas for building a CDR-Replay tool. They

10   also indicate that they were considering connecting to

11   a server remotely. I don't know if that ended up

12   getting implemented or not. I hadn't seen anything

13   that it had gone to that.

14 Q. Okay. You did mention a code repository that you

15   didn't have access to; what was that?

16 A. I believe it was a CDR-Replay controller.

17 Q. And what was the reference that you saw to it that

18   could have been relevant?

19 A. Oh, let me see, I've cited two documents that I don't

20   know what they are in footnote 72. There was at least

21   enough material to indicate that this repository

22   either existed at some time and maybe it no longer

23   exists, but it seemed like it should exist and that it

24   would be relevant, but it was not made available to

25   me.

1 Q. Okay. You had access to the Amazon Web servers you

2 said for Collision Sciences' database, is that right?

3 A. Correct.

4 Q. What did you find there?

5 A. So I was able to search through their Amazon Web

6 Services instances. My focus mainly was on the

7 database as it related to crash and CDR software, and

8 I examined the CS production database to look for

9 whether it was similar to the database that I saw in

10 this CDR-Replay video. It appears that the CS

11 production database has a table in it for CDR data

12 that appears to be greatly expanded from what was

13 present in that video, but it does appear to contain

14 the same types of data, at least in the subset that

15 are visible, which, again, would lead me to believe

16 that this table is an updated version of what they

17 were working on April of 2018; more likely than not.

18 Q. I believe you compared the size between the two, and

19 I'm sorry to make you find that back, but if you could

20 point that out, it would be helpful.

21 A. So in terms of just a number of tables, the CS

22 production database contained 69 tables as opposed to

23 the basically one in the one that was visible in that

24 video. So they've obviously done a large amount of

25 development on tables that are not related to that CDR

1   data table. Within the CDR data table, there's ten

2   visible columns in the video; nine of which appear to

3   have direct analogs in the new table and one appears

4   to have been split out into three different columns

5   where we saw there was a field that had the year,

6   make, and model all in one field, and that's now been

7   split into year, make, and model in the newer

8   database, which makes sense.

9 Q. I think it's on page 51, the number of rows that you

10   talk about.

11 A. So the number of rows is about how much data is in the

12   table. There's a lot of data. There's 86,067 rows in

13   the new one as opposed to 1,057 in the one from April.

14   Again, it appears to contain the same type of json

15   data, but the unique identifier for the rows appears

16   to have changed in format. So it looks like it's a

17   hex value here in the screenshot where it was a number

18   before. There's obviously a whole lot more entries

19   for vehicle scans in the newer database than the one

20   in the video.

21 Q. What does each row represent, first, between the

22   tables that we were looking at?

23 A. I can tell you what each row appears to represent.

24 Q. Okay.

25 A. And that is it appears to represent an individual

1   unique scan of a vehicle using Respondent's CrashScan

2   tool, as far as I can tell. So when they do that,

3   they will generate a json file and they put that in

4   the database, and that's where that json information

5   comes from when they get a trace. Using their mobile

6   app, they capture it and put on it the server; that

7   way that json data is available, and if a customer

8   says, hey, we need to do a CDR-Replay or something

9   weird, then they can take that json data and follow

10   the process we saw just there in the CDR-Replay and

11   run the CDR report, and then they can say, okay, based

12   on the Bosch report, it looks like this number was

13   wrong or maybe the Bosch report is wrong, but there's

14   something going on here. Oh, hey, we missed this in

15   our app, let's fix this in our application, and then

16   we can send out a new report, or if they really want

17   the Bosch report, they can send them the Bosch report

18   that way.

19 Q.   In the video, I think you said 1,057 rows?

20 A.   That's what I saw.

21 Q.   Would that have been data from their CrashScan

22   application?

23 A.   Again, that's my understanding; that's what it appears

24   to be is the traces captured from the vehicles. They

25   go on and plug in, scan it, they put it on the server,

1   and if that data is then ready to either go into their

2   own reports -- you know, I think in their repository

3   there's code for generating reports from their own

4   data; that json data can also be used for CDR-Replay;

5   that's two different pathways from what I can tell.

6 Q. How much time and effort did you put into the audit?

7 A. I don't know offhand. I'm sure that I've got my

8   invoices and I can go look it up. I think I provided

9   some of that.

10 Q. Well, we've added to the exhibit the invoices that you

11   had.

12 A. Okay.

13 Q. I know that you just provided that to us.

14 A. Yep.

15 Q. And so the invoices that are attached, what's their

16   timeframe?

17 A. Let's see, August 22 to August -- the end of August --

18   let's see, whenever that report went in, what is the

19   sign date? Let me check. I think it was the 31st,

20   July 31st, 2023.

21 Q. So from the time that you started the audit process or

22   preparing for the audit process until you signed the

23   report, how much did DisputeSoft bill, roughly?

24 A. I think it was -- I'm trying to think. I think it was

25   around 110,000.

1 Q. Okay.

2 A. I don't recall. I know I ran the numbers once, but

3   that was a week or two or three ago, but I should be

4   able to add up all the invoices to get the answer.

5   MR. ZELLER: That concludes the audit

6   process. Time for a break?

7   THE ARBITRATOR: Yes. Let's take a

8   15-minute break, and we'll be back after that.

9   (Off the record at 2:27 p.m.)

10   (Back on the record at 2:49 p.m.)

11 BY MR. ZELLER:

12 Q. Mr. HelfinSiegel, you were also asked to provide

13   opinion testimony in this matter too, is that correct?

14 A. That's correct.

15 Q. I think you can refer to your report, if that's okay?

16   THE ARBITRATOR: It is okay. Steve, do you

17   have an extra copy of that? Mine says it's reserved.

18   If you don't, what we can do is maybe at the end I'll

19   just take the witness's copy or something.

20   THE WITNESS: I have a hard copy printed

21   out if you want me to grab it.

22   MR. MONSMA: Sure.

23   THE ARBITRATOR: Thank you.

24 BY MR. ZELLER:

25 Q. Okay. In short, what opinions were you asked to give?

1   A.   So I was asked to look at four different areas: How

2   is the Bosch CDR software related to Respondent's

3   CDR-Replay tool, which we spent some time on.

4   Does Respondent CDR-Replay tool allow the

5   Bosch CDR software to run while not connected to a

6   car?

7   Is there evidence indicating the presence

8   and/or use of the Bosch CDR software by Respondent in

9   the audit systems or documentary record and that

10   appear outside the scope and time period described by

11   Respondent's software licenses?

12   And is there evidence in the documentary

13   record that Respondent quote, unquote, reverse

14   engineered the Bosch CDR software and/or does

15   Respondent utilize data extracted from the Bosch CDR

16   software or utilize the Bosch CDR software itself to

17   update new vehicles in Respondent's crash data

18   software. So those are the four areas I was asked to

19   opine on.

20   Q.   I think I'll ask you what your brief conclusions were

21   on the four areas and then we can talk a little bit

22   more in detail.

23   A.   Sure. So we did cover a lot of similar ground in the

24   audit report, but based on the materials I've seen,

25   the CDR-Replay tool it is based on and incorporates

1   the Bosch CDR software, that was that video you guys

2   saw. You know, it's used with BUSMASTER and some

3   Python code and some additional things. It's a key

4   component where if you take it out, that CDR-Replay

5   does not work.

6   Respondent's CDR-Replay tool runs the Bosch

7   CDR software without connection to a real car.

8   There's a lot in documentary record about this. I

9   remember seeing something about specific hardware

10   being used to help in that process. And again, that

11   was the stated goal of the CDR-Replay as well, is to

12   run while not being connected to a car. And again,

13   this is all more likely than not.

14   Bosch CDR software versions were installed

15   that appear outside the time period. This was, again,

16   a request to see if there were versions installed that

17   were different or past the years that would be

18   indicated on the invoices of the licenses I was able

19   to review.

20   And lastly, that the CDR-Replay tool

21   incorporated the Bosch CDR software as used to verify,

22   correct, and improve CrashScan's own product. And it

23   provided a similar CrashScan functionality, was all

24   part on that last one.

25   Q. Good. I'd like you -- for everyone, we're only going

1   to talk about three out of the four.

2   A. All right.

3   Q. What did you do for your preparation for these

4   opinions?

5   A. Well, I performed the audit, so that gave me a lot to

6   work with. I also reviewed a lot of material in the

7   documentary record, reviewing and understanding

8   technical documentation and materials related to

9   source code and that sort of thing; reviewing,

10   understanding, translating that information as often

11   as is relevant and helpful for a trier of fact when

12   going through the documentary record. It's required

13   on almost every case that I worked on. I reviewed Mr.

14   Hsu's deposition transcript. Everything that's cited

15   in the report as a material considered or footnoted is

16   materials I relied upon.

17   Again, the most telling is just the

18   CDR-Replay video demonstrating clearly how everything

19   worked, at least as of April 3rd, 2018. I believe

20   there's also testimony from Mr. Hsu saying it

21   functioned in predominately the same way in 2020 at

22   least until 2023, I think. I don't recall exactly.

23   Q. Let's talk about that one first, CDR-Replay and your

24   opinions about it.

25   A. Okay.

1   Q.   What's the basis of your opinion of that CDR-Replay

2   incorporates the Bosch CDR tool?

3   A.   Again, it's a culmination of a variety of materials.

4   So reviewing the developer docs that were present on

5   the computer, the documentary record, the summary of

6   code describing how the tool is supposed to work,

7   deposition testimony; just everything that I had seen

8   in terms of evidence on the audit laptop as well,

9   combined with the video demonstration all point to

10   that tool, CDR-Replay tool, incorporating the Bosch

11   CDR software.

12 Q.   You said that the CDR-Replay wouldn't work without the

13   Bosch software?

14 A.   Correct.

15 Q.   Would it have any function?

16 A.   I don't think it would have any particular function

17   because you need to use the Bosch CDR software in

18   order to listen to the messages from the Bosch CDR

19   software, and eventually generate the Bosch CDR

20   report. So I think the software is the beating heart

21   of the replay tool at least as described here.

22 Q.   We saw the video and a lot of description about it,

23   but one thing we haven't talked about, and maybe you

24   can explain what your understanding of it was, was how

25   is this physically set up?

1 A. Again, so this is my understanding is that there's a

2   laptop computer or desktop computer, a PC, Windows PC,

3   with the Bosch CDR software installed, the BUSMASTER

4   software installed; obviously has to have access to a

5   database if you're going to pull the json data; to

6   properly format, you need the tools to format it so

7   that it can be read, and then you need some sort of

8   connector to -- I think it was like an OBD mockup, and

9   then I believe there were two devices, but I'm not 100

10   percent certain on everything I saw; it was not a

11   focus of my main investigation. I just remember

12   seeing some e-mails from Respondent about building a

13   special cable and/or some special devices that they

14   were looking at, but I don't understand that part that

15   well.

16 Q. Okay. Can we talk about the documentary evidence and

17   how that supports your opinion?

18 A. Sure. So again, the Summary of Code, which is the one

19   that I enjoyed because it's a lot of -- easier to

20   understand English, describes how the CDR-Replay tool

21   was to work. I mean, there's also several

22   corroborating e-mails about the development of the

23   CDR-Replay tool, what the goal was, what they were

24   trying to do, use CDR without being connected. It had

25   a lot of different developers I think working on it,

1   that sort of thing. It should be in the citations in

2   the report.

3   Q. Do you know what versions of the software CDR-Replay

4   was used with?

5   A. I know it was definitely used with 17.7 per the video.

6   I believe it was used in later versions based on the

7   work logs of Mr. Hsu and requests for CDR-Replay that

8   show up. I'm trying to think. I think there might be

9   some other e-mails, but I can't recall as I sit here.

10   If you can jog my memory, it might work.

11 Q. Toward the end of your section in paragraphs 33 and 34

12   you talk about the work logs. Can you talk about what

13   the work logs were?

14 A. Sure. The work logs appear to be invoices from Mr.

15   Hsu for work performed. The ones that I specifically

16   called out in my report were related to mostly using

17   CDR-Replay to enhance and improve the CrashScan

18   application.

19   So there were requests often sent by Jason

20   Bayley or by other folks to either solve issues or a

21   client says, hey, we really need your CDR-Replay, can

22   you get us a CDR-Replay, can you get us a replay of

23   that, and then Mr. Hsu would do the replay and then

24   would say, oh, I found some issue. I fixed this in

25   our vehicle.py, Python code, now ours is working

1   correctly, and that was what the type of material that

2   was in those work logs demonstrated. At least those

3   logs indicate that it appeared to still be in use at

4   least as of May '22.

5   Q.   So your next opinion was that CDR-Replay doesn't need

6   to be connected to a car --

7   A.   Correct.

8   Q.   -- right?

9   A.   Yes.

10   Q.   What supported that opinion?

11   A.   So again, the video -- it's going to be a lot of the

12   same things: video, Summary of Code, documentary

13   record, stated goal of the tool is to be able to run

14   it without being connected to a car so you can

15   generate after-the-fact a Bosch report.

16   A lot of the correspondence and things that

17   I saw were about, hey, we've generated our report,

18   customer really wants a Bosch report, so let's go to

19   CDR-Replay and get the Bosch report. That's not going

20   to be possible to do that just in the back office

21   unless they bring the car and connect it. I'm trying

22   to think of the other elements, if there were. A lot

23   of replay versions of reports. I have the ability to

24   generate reports in our lab; again, that seems to

25   indicate it's happening in the lab and not out next to

1   a car. I'm skimming these --

2 Q. That's all right. Do you have evidence of CDR-Replay

3   being used post June of 2019?

4 A. Again, the work logs indicate that the CDR replays

5   were being run, and I believe -- I don't recall

6   exactly the Hsu deposition testimony whether this was

7   asked or not, but I believe the Hsu deposition said

8   this was the same CDR-Replay tool we've been talking

9   about.

10 Q. You have a lot of examples in your report on that

11   usage. Would you mind -- for example, 37, paragraph

12   37, if you mind explaining just a couple of them and

13   why they support your opinion?

14 A. Sure. I think 37.12 is good on page 29. Jason Bayley

15   also writes for our telematics purposes now, the CDR

16   Bosch software can have that order info (vehicle, VIN,

17   date) entered manually (and then click we run, collect

18   ACM data; it is at this point we play back our json

19   file; the Bosch CDR hardware/software thinks that it

20   is plugged into either an airbag module or a vehicle.

21   So again, it just seems like they're trying

22   to get it to believe it is connected, though it is

23   not.

24   Right above it, we need to focus on playing

25   back json files while running some other app like fake

1   cdr or live cdr, which basically makes the Bosch

2   hardware think it's plugged into a vehicle or an

3   airbag module. This is in 2017. Again, by April of

4   '18, it looks like they were largely successful.

5   Q.   On that page, you had a couple that appear to be from

6   2020.

7   A.   Let's see.

8   Q.   37.9 and 37.10.

9   A.   37.9: Here's the report containing raw hexadecimal

10   data with the Bosch CDR software version 19.3.1 report

11   attached. There's a 19.4 in the next one --

12   Q.   Okay.

13   A.   There's several citations. 37.14.5 on page 31, Brian

14   Hsu writes I finished writing a program in CAPL that

15   would trick the CDR into thinking it's talking to my

16   car, and it attached a file named BoschCDR.txt. I

17   mean, there's a preponderance of evidence here.

18   Q.   Is it your opinion that CDR-Replay was in use after

19   May of -- after June of 2019?

20   A.   I would say that the evidence supports that it's much

21   more likely than not that it was still in use based on

22   all of those reports and correspondences, at least

23   between January 6, 2020 and May 11, 2022.

24   Q.   If you go to your last one, your fourth opinion.

25   A.   Okay.

1 Q. You said that you have the opinion that the CrashScan

2   app is similar in reporting functionality as Bosch's

3   tool, which by leveraging CDR-Replay, it's used to

4   continually verify and update CrashScan, correct?

5 A. That's right.

6 Q. What's the basis for that opinion?

7 A. The basis for that, at least the back half of that, is

8   primarily Mr. Hsu's work logs where he describes in

9   detail when he's using CDR-Replay, and then I focused

10   on searching through the record on instances where it

11   appears to be the code was being updated or the

12   CrashScan application, in addition to hits for

13   CDR-Replay. So the entries that are in here largely

14   have to do the CDR-Replay tool and improving coding

15   elements that I knew were part of the CrashScan tool

16   or the CrashScan app, like vehicle.py is a Python

17   file, that's part of the CrashScan app. Again, at the

18   highest level, it's my understanding, at least, that

19   both the CrashScan application and the Bosch CDR

20   application provide reports on vehicle crashes and

21   crash data.

22 Q. Where does that understanding come from?

23 A. That's comes from the marketing materials I've read in

24   terms of the documentary record. I'm not sure if I've

25   seen anything else from Mr. Rose or anywhere else in

1   the record. I'll check what I cited here.

2   I think it was mostly based on that and

3   understandings from counsel, and from materials that I

4   reviewed in the documentary record. I can't recall

5   offhand other than looking at the reports.

6   Q.   How is that -- or can you explain what you mean by

7   it's used to continually update and improve and refine

8   the CrashScan product?

9   A.   Sure. So a good example here is 51.14, page 42. Mr.

10   Hsu writes: Replayed and checked a 2006 Saturn Ion.

11   RIP Saturn. The report looks good, but the

12   longitudinal Delta V was off by 0.02 miles per hour.

13   Fed fake values back to the CDR to get more accurate

14   resolution; updated the resolution in Python.

15   The CDR-Replay tool was used to improve the

16   Python code for Respondent's CrashScan software, and

17   there are many instances of that.

18   Q.   Maybe break that down. What's your understanding of

19   what that means?

20   A.   So my understanding of what means is that there's a

21   report for a Saturn Ion 2006 that they replayed in the

22   CDR-Replay. The report looked good, but the

23   longitudinal Delta V -- and again, I'm not a crash

24   expert so I'm not going to tell you what that means --

25   but it was off by 0.02 miles per hour. They fed the

1   fake values back to CDR to get a more accurate

2   resolution and then they updated the resolution in

3   Python.

4   So it sounds like they ran it, they saw it

5   was off, and then they put a fake value back in and

6   they updated their code to improve the CrashScan

7   product. There's several -- many instances of that

8   here. I don't know how many citations I have, but

9   they're spanning a long period of time.

10   Q.   And when did that occur that you were just talking

11   about?

12   A.   That one is on April 3rd, 2020, but there are several

13   more. They go -- if I remember right, they go at

14   least until 2020 in terms of the work logs. I don't

15   recall if I had all the work logs either. I just have

16   what was produced to me. This was about from five

17   invoices containing ten weeks of work for Mr. Hsu, so

18   I don't think it was the full gamut.

19   Q.   Were there any other opinions that you developed for

20   this report?

21   A.   If I developed it, it's in the report, so that should

22   be it.

23   MR. ZELLER: Okay. I'm finished.

24   THE ARBITRATOR: Okay. It's about ten

25   after 3:00.

1   MR. MONSMA: I'm fine handling it either

2   way.

3   THE ARBITRATOR: What's your preference?

4   MR. MONSMA: I start with him in the

5   morning. I think I'd prefer it so I don't have to

6   stop.

7   THE ARBITRATOR: All right. We'll do that.

8   Before we break, explain to me Python.

9   THE WITNESS: Python is a programming

10   language. So just like how C is a programming

11   language or C++. Python is actually really nice.

12   It's easy to understand; it's easy to read; it's very

13   useful for scripting, which is when you automate tasks

14   that you're going to do a lot of different times.

15   It's also very commonly used. I believe Python is

16   open source, so you don't get wrangled into as much if

17   you're trying to use a proprietary language or

18   something like that. It was one of the languages that

19   I learned on in college as well.

20   THE ARBITRATOR: Okay. Thank you. Let's

21   finish for the day. Off the record.

22   (Proceedings concluded at 3:13 p.m.)

23

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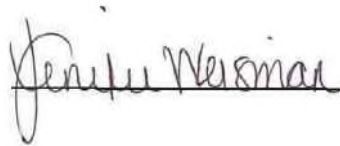
1   CERTIFICATE OF REPORTER

2

3   STATE OF MICHIGAN)

4   ) SS

5   COUNTY OF OAKLAND)

6

7   I, JENIFER WEISMAN, hereby certify that I

8   reported stenographically the foregoing proceedings

9   and testimony under oath at the time and place

10   hereinbefore set forth; that thereafter the same was

11   reduced to computer transcription under my

12   supervision; and that this is a full, true, complete

13   and correct transcription of said proceedings.

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22   JENIFER WEISMAN, CSR-6006

23   Notary Public,

24   Oakland County, Michigan.

25   My Commission expires: August 17, 2027

Exhibits

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AMERICAN ARBITRATION ASSOCIATION

INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION

COMMERCIAL ARBITRATION RULES

BOSCH AUTOMOTIVE SERVICE

SOLUTIONS, INC.,

            Claimant,

        vs.   Case No. 01-21-0016-2306

                      Arbitrator Thomas W. Cranmer

COLLISION SCIENCES, INC.,

            Respondent.

_____

     VOL II

     ARBITRATION HEARING

     Taken at 150 W. Jefferson Avenue, #2500,

     Detroit, Michigan

     Commencing at 9:00 a.m.,

     Tuesday, September 10, 2024,

     Before Jenifer Weisman, CSR-6006.

1   APPEARANCES:

2

3   STEVEN McMAHON ZELLER

4   DIEGO FREIRE

5   Dykema Gossett, PLLC

6   10 S. Wacker Drive

7   Suite 2300

8   Chicago, Illinois 60606

9   312.876.1700

10   szeller@dykema.com

11   dfreire@dykema.com

12   Appearing on behalf of the Claimant.

13

14   ADAM WIENNER

15   Robert Bosch, LLC

16   38000 Hills Tech Drive

17   Farmington Hills, Michigan 48331

18   248.876.6641

19   adam.wienner@us.bosch.com

20   Appearing on behalf of the Claimant.

21

22

23

24

25

1   TIMOTHY P. MONSMA

2   HANNAH A. CONE

3   Varnum, LLP

4   333 Bridge Street NW

5   Suite 1700

6   Grand Rapids, Michigan 49501

7   616.336.6000

8   tpmonsma@varnumlaw.com

9   hacone@varnumlaw.com

10   Appearing on behalf of the Respondent.

11

12   THOMAS W. CRANMER - ARBITRATOR

13   Miller Canfield Paddock & Stone, PLC

14   840 W. Long Lake Road

15   Suite 150

16   Troy, Michigan 48098

17   248.267.3381

18   cranmer@millercanfield.com

19

20   ALSO PRESENT:

21   Jason Bayley

22   Brian Hsu

23

24

25

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21

22   EXHIBITS

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24   (Exhibits marked and retained by counsel.)

25

1   Tuesday, September 10, 2024

2   9:00 a.m.

3

4   THE ARBITRATOR: Good morning. Any

5   preliminary matters we need to deal with?

6   MR. ZELLER: No.

7   MR. MONSMA: No.

8   THE ARBITRATOR: Tim, it's your

9   cross-examination.

10   EXAMINATION

11   BY MR. MONSMA:

12   Q.   Good morning. You understand you're still under oath?

13   A.   Yes, I understand.

14   Q.   You might remember me from your deposition a couple

15   months ago, but I represent Collision Sciences in this

16   case. You understand that, I assume?

17   A.   I understand.

18   Q.   Okay. Let me ask you a few questions about what you

19   did in this case and maybe more importantly what you

20   didn't do.

21   Before I do that, let me kind of set the

22   table here. Is it your understanding that CSI has

23   three distinct products, software products?

24   A.   It's my understanding they provided -- produced to me

25   three different software repositories. I'm not sure

1   if that's --

2   Q.   I want to make sure we're all talking about the same

3   universe of software issues, for lack of a better

4   word.

5   So the first piece of software is the

6   CrashScan app, right?

7   A.   I'm aware of that, yes.

8   Q.   And you're aware of the CDR-Replay tool; that's

9   something different than CrashScan, right?

10   A.   Correct.

11   Q.   You're aware of the Amazon Web Service or AWS server,

12   right?

13   A.   Yes.

14   Q.   Okay. So that's kind of the universe --

15   A.   But it's multiple servers.

16   Q.   Fair enough. But those are the different components

17   that you looked at to varying degrees in this case,

18   correct?

19   A.   The different components I looked at to varying

20   degrees were the audit laptop, the source code

21   repositories that were related to the CrashScan app,

22   and the Amazon Web Services servers.

23   Q.   But my summary of CSI's offerings, for lack of a

24   better word, is accurate, right; there's those three

25   components?

1   A.   I'm not sure if offerings is the right way to

2   characterize it, because I don't believe they ever

3   offered CDR-Replay for sale.

4   Q.   I think that's right. I'm not trying to trip you up.

5   I just want to make sure we're all talking about the

6   same thing here, because there's a lot of complicated

7   moving parts, is that fair enough?

8   A.   That's fair enough.

9   Q.   Okay. So when you did your analysis, I think you

10   testified yesterday, you did not understand the

11   importance of CDR-Replay, is that correct?

12   A.   At the time of the audit, I wasn't aware of the

13   importance of the video that I was viewing.

14   Q.   You didn't do a comparison in this case between the

15   Bosch CDR code and any of CSI's code, correct?

16   A.   That's correct.

17   Q.   And you didn't conduct a forensic review with any CSI

18   devices in this case, right?

19   A.   Yes, they were not produced.

20   Q.   And you would have preferred to have done that, right?

21   A.   That's correct.

22   Q.   Your analysis in this case focused primarily on the

23   CDR tool, didn't it?

24   A.   My analysis focused primarily on the audit laptop and

25   the searches on the laptop -- excuse me, the hits and

1   TD search, index search, and reviewing all the various

2   keyword hits on the audit.

3   Q.   Your testimony yesterday would be fair to characterize

4   it focused primarily on the CDR-Replay tool, didn't

5   it?

6   A.   That's fair.

7   Q.   It didn't focus on the CrashScan app?

8   A.   It was not.

9   Q.   And it touched on but didn't really focus on the AWS

10   servers, did it?

11   A.   That's correct. I reviewed each of those elements as

12   pertaining to the original request of the audit.

13   Q.   And in connection with your work in this case, you

14   didn't spend as much time evaluating the CrashScan

15   app, did you?

16   A.   That's correct.

17   Q.   Is it your understanding that that's the primary

18   product offered by CSI?

19   A.   That's my understanding, yes.

20   Q.   And you didn't really spend much time digging into how

21   that product works, did you?

22   A.   I spent a decent amount of time learning to understand

23   how each of those elements interplayed in terms of

24   reviewing documents. I see you looking for my

25   deposition testimony, so I should get ready to hear

1   it.

2   Q. Well, you recall testifying, don't you, that you

3   didn't really spend much time digging into how the

4   CrashScan app actually works?

5   A. I didn't spend as much time on that, correct.

6   Q. In fact, in your work in this case, you were primarily

7   focused on looking for evidence or indicia of copying

8   of the Bosch software, isn't that right?

9   A. That's correct, for the audit.

10 Q. And you didn't find any indicia of copying the

11   software, did you?

12 A. I did not find any indicia of copying of the source

13   code.

14 Q. In your deposition, you testified that you never

15   observed CSI-Replay running in real time, right?

16 A. That's correct. I saw the source code that was

17   produced and I saw the video, but I did not see it

18   running live.

19 Q. And you never ran that product yourself, correct?

20 A. That's correct.

21 Q. And you were able to retrieve a video of CDR-Replay

22   operating in 2018, correct?

23 A. That's right.

24 Q. April?

25 A. April 3rd, 2018, yes; saw it yesterday.

1 Q. Okay. And that video is the biggest basis for your

2   opinions in this case, isn't that right?

3 A. I would say it's the most demonstrative, but it's

4   supported by a bunch of other corroborating evidence

5   as I stated in my depo, Summary of Code, work logs.

6 Q. Well, we can go back to what you actually said in your

7   deposition, but it's true, isn't it, that you viewed

8   the 2018 video as the biggest and most useful piece of

9   evidence you reviewed?

10 A. Yes, most useful because it's easy to understand the

11   video.

12 Q. And you don't know how the CSI-Replay tool may have

13   changed over time, do you?

14 A. I don't know how it may have changed over time, but,

15   again, I've heard the testimony -- I read the

16   testimony of Mr. Hsu saying it operates primarily in

17   the same way, so I understand from that.

18 Q. Let me ask my question again: You don't know how the

19   CDR-Replay tool may have changed over time, do you?

20 A. I know that certain elements were added because it's

21   present in the work logs and, again, I'm taking that

22   at face value to be true.

23 Q. Is that another way of saying no?

24 A. That's a way of saying that CDR-Replay was used to

25   improve CSI, but also the CDR-Replay tool was updated

1   as evidenced by some of those work logs, that the tool

2   itself has also improved.

3   Q.   CDR-Replay tool code repository was not something you

4   ever analyzed in this case, was it?

5   A.   Correct; it was not made available to me.

6   Q.   So the history of the development of the CDR-Replay

7   tool isn't something you were able to evaluate?

8   A.   That's correct.

9   Q.   So you can't say that you know the current status of

10   the CDR-Replay tool, can you?

11 A.   That's also correct.

12 Q.   It's fair to say in this case that for whatever

13   reason, you didn't get access to the ideal degree of

14   evidence in forming your opinions?

15 A.   Sure. Always looking for the best evidence, but as

16   experts, we work with what the parties agree to

17   produce or compelled.

18 Q.   And you didn't analyze the CDR-Replay source code, did

19   you?

20 A.   I did review that. It's in the tail end of my depo.

21   It was produced after my expert report, or I reviewed

22   it after my report came through.

23 Q.   You testified that you believed that CSI used a

24   software program called BUSMASTER, right?

25 A.   That's correct.

1   Q.   And that was supposedly to understand the Bosch CDR

2   software?

3   A.   Understand the messages coming out of the Bosch CDR

4   software.

5   Q.   And that conclusion is based on your review of that

6   April 2018 video, right?

7   A.   That's correct; along with the Summary of Code and all

8   the other materials.

9   Q.   BUSMASTER is a software tool designed specifically for

10   that purpose, right?

11   A.   Yes.

12   Q.   To observe?

13   A.   My understanding is to listen to messages sent across

14   the BUSMASTER such as the CAN bus for automobiles.

15   Q.   That's the reason that that software exists, correct?

16   A.   That's my understanding of how it --

17   Q.   Is it also your understanding that Bosch created

18   BUSMASTER?

19   A.   It's my understanding that it's a Bosch tool. I don't

20   remember. There were some odd things about its

21   creation.

22   Q.   It's free, isn't it?

23   A.   It's my understanding it's open source, so it should

24   be free.

25   Q.   Let me ask you about some of your conclusions in this

1   case.   When you examined CSI's systems, it did not

2   appear that Bosch's software had been broken down or

3   disassembled or cracked in some way such that the

4   source code could have been extracted, is that right?

5 A. From the evidence I reviewed, that is correct.

6 Q. And you also saw no evidence that CSI copied Bosch's

7   code, correct?

8 A. I didn't see evidence that they had access to the code

9   in order to copy it.

10 Q. So the answer is no?

11 A. I'm agreeing with you. I don't remember whether it

12   was a yes or a no.

13 Q. You can't say for certain in 2024 whether the

14   CDR-Replay requires the Bosch tool to function, can

15   you?

16 A. In 2024, I can't say anything for certain. Again, I

17   work in more likely than not.

18 Q. And your analysis did not uncover any evidence that

19   CSI transferred the Bosch software to any third party,

20   did it?

21 A. Let me take a moment to parse that. That CSI

22   transferred to a third party, the Bosch software. I

23   think I've seen the other way around through

24   StreetDelivery, but I have not seen CSI transferred

25   the Bosch software.

1	Q.	I don't want to beat a dead horse, but I think it's an
2		important issue: The CrashScan app is different than
3		CDR-Replay, isn't it?
4	A.	That's correct.
5	Q.	The CrashScan app scans vehicles, processes the
6		information from those vehicles, and generates reports
7		for customers, right?
8	A.	That's correct.
9	Q.	Although you didn't spend as much time analyzing how
10		CrashScan works, you were able to determine that it
11		does not incorporate the Bosch CDR tool, correct?
12	A.	That was the purpose of the initial audit.
13	Q.	And CrashScan can be used without the Bosch CDR tool,
14		can't it?
15	A.	CrashScan can be used without the Bosch CDR-Replay
16		tool.
17	Q.	I'm sorry, I'm not talking about the CDR-Replay tool;
18		I'm talking about Bosch's tool. CrashScan can operate
19		--
20	A.	Yes, it can run without Bosch's software.
21	Q.	Thank you. I know you see this one coming because you
22		talked about it yesterday, but there are lots of
23		different definitions of reverse engineering in your
24		opinion, right?
25	A.	That's correct.

1	Q.	And there is no universal gold standard definition?
2	A.	None that I'm aware of.
3	Q.	And you're aware here that the contract does not
4		define the term reverse engineering?
5	A.	I'm aware.
6	Q.	And based on the various definitions of reverse
7		engineering, there are some where what you saw might
8		constitute reverse engineering and others where it
9		wouldn't, right?
10	A.	I would say that's correct.
11	Q.	You have no opinion one way or the other on that, do
12		you?
13	A.	My opinion is that it could be considered reverse
14		engineering and I'm trying to provide the information
15		that would be helpful to the trier of fact.
16	Q.	It could also not be reverse engineering depending on
17		what definition you used?
18	A.	I think that's correct.
19	Q.	The CDR-Replay tool was complete by April 3, 2018,
20		wasn't it?
21	A.	I would say it was operational. I would not say
22		necessarily that it was complete, but it was certainly
23		capable of its minimum viable operations. It was
24		doing what it wanted to do in terms of replaying.
25	Q.	It had been created and it was functional by 2018?

1   A.   Yes.

2   MR. MONSMA: I don't have any other

3   questions.

4   THE ARBITRATOR: All right. Any re-direct?

5   MR. ZELLER: No.

6   THE ARBITRATOR: Mr. HelfinSiegel, thank

7   you. I appreciate it.

8   Go ahead and call your next witness.

9   MR. ZELLER: I call Brian Hsu.

10   THE ARBITRATOR: Mr. Hsu, we're going to

11   have you come up and have our hot seat up here.

12   BRIAN HSU,

13   was thereupon called as a witness herein, and after

14   having first been duly sworn to testify to the truth,

15   the whole truth and nothing but the truth, was

16   examined and testified as follows:

17   EXAMINATION

18   BY MR. ZELLER:

19   Q.   Good morning, Mr. Hsu.

20   A.   Good morning.

21   Q.   How are you?

22   A.   Good.

23   Q.   We've met before in your deposition quite a long time

24   ago, it seems like. Now, you've been with Collision

25   Sciences since 2017, is that right?

1   A.   Yes.

2   Q.   And did you start as a contractor?

3   A.   Yes.

4   Q.   Eventually, you became an employee?

5   A.   Correct.

6   Q.   When was that?

7   A.   About 2020. I think the second half of 2020.

8   THE ARBITRATOR: I'm going to ask you

9   already to keep your voice up.

10   THE WITNESS: Sorry.

11   THE ARBITRATOR: That's all right. The

12   sound is not great in this room, not your fault, but

13   just keep your voice up. Thank you.

14 BY MR. ZELLER:

15 Q.   I understand you've become a part owner now too, is

16   that correct?

17 A.   Yes.

18 Q.   How much of the company do you own?

19 A.   Roughly, 10 percent.

20 Q.   When did that happen?

21 A.   I can't recall exactly.

22 Q.   Sometime since you became an employee?

23 A.   Correct.

24 Q.   Mr. Hsu, you have a background in mechanical

25   engineering, is that right?

1   A.   Yes.

2   Q.   You have a bachelor's and a master's degree?

3   A.   Yes.

4   Q.   So we've talked a lot about CDR-Replay, and it

5   operates independent of a vehicle, is that right?

6   A.   Yes.

7   Q.   The physical setup of CDR-Replay is a cable connected

8   to one port on a computer, connected to a device,

9   connected to another port on the computer, is that

10   right; is it a loop?

11   A.   No.

12   Q.   Would you describe it for us?

13   A.   Yes. So computer and then USB hub, from the USB hub

14   it actually goes into a bunch of -- a collection of

15   hardware and software, and output of that hardware

16   goes onto a vehicle bus, and that's how we can

17   communicate with other devices that's also working on

18   the same vehicle network.

19   Q.   What vehicle bus do you use to simulate a car?

20   A.   I don't understand the question.

21   Q.   Well, what's the device that it's connected to?

22   A.   It's actually just a bunch of cables. To establish a

23   vehicle network, all you need is just a bunch of

24   wiring, cables.

25   Q.   Okay. It's not an actual vehicle?

1   A.   No.

2   Q.   BUSMASTER is used to monitor the communications going

3   back and forth with the computer, right?

4   A.   Between what, I'm sorry?

5   Q.   Well, what communications does BUSMASTER monitor in

6   that setup?

7   A.   Vehicle communication.

8   Q.   But there's no vehicle, right?

9   A.   No.

10 Q.   So what communications happen on CDR-Replay? The

11   simulated vehicle, could we call it that?

12 A.   Sure, yeah. It transmits vehicle data and the output

13   would be vehicle data.

14   THE ARBITRATOR: There you go. Please keep

15   your voice up. It's not a thing you do every day, but

16   keep it up. Thank you.

17 BY MR. ZELLER:

18 Q.   Collision Sciences has a database of vehicle data,

19   yes?

20 A.   Can you define vehicle date?

21 Q.   CDR data, crash data. Let me ask you this: We

22   watched the video?

23 A.   Yeah.

24 Q.   We saw a table called CDR data?

25 A.   Correct.

1   Q.   What's that data?

2   A.   That is vehicle data extracted with our mobile

3   application.

4   Q.   We heard at the time in April of 2018 that that

5   database had 1,200 rows in it. That's 1,200 lines of

6   vehicle data, is that right?

7   A.   That's 1,200 entries in the database.

8   Q.   Entries?

9   A.   Yes.

10   Q.   What do you consider an entry as opposed to a line,

11   like I said?

12   A.   I think they're interchangeable.

13   Q.   Okay. And in December of 2022, you are now using --

14   at that time, you were using an Amazon Web Services

15   database?

16   A.   Correct.

17   Q.   And there was also a CDR data table within that

18   database?

19   A.   Yes.

20   Q.   Is it correct that that had at the time like 89,000

21   rows?

22   A.   I believe I have evidence on that. I don't recall

23   exactly.

24   Q.   Would that be close enough?

25   A.   I can't quantify that; I'd have to look at something.

1   Q.   Do you dispute it was 85,000 rows?

2   A.   Yeah, did we get that from somewhere?

3   Q.   Yesterday, Mr. HelfinSiegel testified that when he

4   reviewed that data, there was 85 or 89,000 entries.

5   A.   I think he said 89,000.

6   Q.   So does that represent --

7   A.   I do not dispute.

8   Q.   Does that represent 89,000 times somebody used the

9   CrashScan application?

10   A.   That is not how that works, no.

11   Q.   Oh, I thought you just said that it's data extracted

12   from your mobile app?

13   A.   I can break it down for you. So internally, the app

14   actually runs with multiple steps of the process. Our

15   app would contract EDR data, which is called crash

16   data; it would extract emissions data for emissions

17   testing; it can also extract diagnostic data. Each of

18   those steps will actually create a row in the

19   database. And our clients are free to run as many

20   times as they want on a vehicle. If someone wants to

21   run a scan three times, that might result in nine

22   distinct rows, but they all correspond to the same

23   vehicle. So it's not okay to say 89,000 rows would

24   represent 89,000 unique vehicles.

25   Q.   What's your understanding of the term reverse

1   engineering?

2   A.   I believe I provided that definition during my

3   deposition as figuring out how something works.

4   Q.   At the time of the video that we saw, the CDR-Replay

5   depends on the Bosch tool to operate, right?

6   A.   No.

7   Q.   No?

8   A.   It works with the Bosch software; it doesn't depend on

9   the Bosch software.

10   Q.   Well, what's the purpose of CDR-Replay?

11   A.   So CDR-Replay is a virtual module for a vehicle

12   simulator. Its purpose is to receive vehicle messages

13   and transmit vehicle messages based on the received

14   requests.

15   Q.   So it could be set up to receive and transmit to

16   anything, is that what you're saying?

17   A.   Yes.

18   Q.   You guys just happen to run it with the Bosch

19   software?

20   A.   In that video, correct.

21   Q.   Isn't it true that that's how you use CDR-Replay

22   always?

23   A.   That's not true.

24   Q.   Do you remember in your deposition I was asking you

25   about CDR-Replay a bunch of times that you mentioned

1   it, and you said that was how -- the same operation in

2   the video?

3   A. Yes. Well, when I use it with the Bosch CDR software,

4   that will correlate to what we saw in the video, but

5   that's not exclusively for the Bosch software. I can

6   use that software doing my app development, because

7   the app inherently talks to a vehicle and that

8   simulator can operate as a vehicle so I can do my

9   testing.

10 Q. The only way for -- I take that back.

11   You used CDR-Replay with the Bosch tool

12   regularly in your work, right?

13 A. I wouldn't define it as regularly. How do you

14   quantify regularly?

15 Q. Okay. Can you turn to 106? Unfortunately, I'm going

16   to have you jumping around a little bit. Binder 2.

17   MR. MONSMA: What exhibit are you on?

18   MR. ZELLER: 106.

19 BY MR. ZELLER:

20 Q. So Exhibit 106 is a Bosch report, correct?

21 A. Correct.

22 Q. I want you to just make a note that it's a 2021 Toyota

23   Corolla, and for reference, the last four digits of

24   the VIN are 9894, right?

25 A. Yes.

1 Q.   Okay. Now, can you turn to Exhibit 103? Do you see

2   on 103 on the first page about the fourth row of

3   vehicles; do you see that's a Toyota Corolla and the

4   last four digits of the VIN are 9894?

5 A.   Yes.

6 Q.   That's the same vehicle, right?

7 A.   Correct.

8 Q.   That's the same scan?

9 A.   Correct.

10 Q.   Exhibit 103 is what you call a management report that

11   you send to your clients, right?

12 A.   Correct.

13 Q.   And what it represents is a -- the report that you

14   sent to that client for that particular period, in

15   this case June of 2021, is that right?

16 A.   Correct.

17 Q.   So the entry which was the fourth line indicates that

18   StreetDelivery scanned the 2021 Toyota Corolla and you

19   charged them $300?

20 A.   Correct.

21 Q.   And when you charge them $300, you charge them for a

22   Collision Sciences' report, correct?

23 A.   Correct.

24 Q.   You didn't supply them necessarily a Bosch report?

25 A.   No.

1   Q.   But you have a Bosch report on your system, correct?

2   A.   Correct.

3   Q.   So this indicates that for that report you ran -- you

4   used CDR-Replay to produce a Bosch report?

5   A.   Correct.

6   Q.   All right. Can you look at 108? You see 108 is a

7   Bosch report, right, and it's for a 2021 Toyota

8   Tundra?

9   A.   Yes.

10   Q.   The last four digits of the VIN number is 59 -- 9417,

11   correct?

12   A.   Correct.

13   Q.   Now, can you turn to Exhibit 120?

14   A.   Yep.

15   Q.   Up in the right-hand corner it's 121-4.

16   A.   Got it.

17   Q.   You notice the last line is for a vehicle scan of a

18   2021 Toyota Tundra, last four digits of the VIN is

19   9417?

20   A.   Yes.

21   Q.   Okay. So again, Exhibit 120 is a management report

22   for StreetDelivery in September of 2021, right?

23   A.   Correct.

24   Q.   The entry on that page 4 for the Toyota Tundra is an

25   indication that StreetDelivery did a scan with

1   CrashScan app of a 2021 Toyota Tundra?

2   A.   Correct.

3   Q.   And Collision Sciences sold them a report in this case

4   for $270?

5   A.   Correct.

6   Q.   But Collison Sciences had on its system a Bosch

7   report, correct?

8   A.   Yes.

9   Q.   And that indicates you ran CDR-Replay for that scan to

10   produce a Bosch report?

11 A.   Correct.

12 Q.   I want to do one more, and then maybe we can go back

13   to what we talked about.

14 A.   Sure.

15 Q.   Can you look at Exhibit 109? You see this is a Bosch

16   report for a 2021 Honda Passport; the VIN number 07 --

17   7467, the last four digits?

18 A.   Yes.

19 Q.   And I'm going to direct you to Exhibit 79. Sorry,

20   that might be in binder 1.

21   THE ARBITRATOR: You said Exhibit 79, is

22   that right?

23   MR. ZELLER: Yes.

24   THE ARBITRATOR: Thank you.

25 BY MR. ZELLER:

1 Q. So page 5 of 79, I think it's the fifth line down,

2   you'll notice there is a 2021 Honda Passport --

3 A. Yes.

4 Q. -- with last four digits of 7467, correct?

5 A. Correct.

6 Q. Now, again this is a -- 79 is another management

7   report for StreetDelivery for the period of July of

8   2021, and that row indicates that StreetDelivery did a

9   scan of a 2021 Honda Passport, is that correct?

10 A. Yes.

11 Q. And they received a report for $270 paid to Collison

12   Sciences?

13 A. Correct.

14 Q. Now, again, Collison Sciences had a Bosch report on

15   their system for that scan, correct?

16 A. Correct.

17 Q. Again, I could go through a lot of these, if we want,

18   but I'll ask you again: Do you regularly use

19   CDR-Replay on the scans that come in?

20 A. I'd say occasionally. I don't do it for every scan.

21 Q. You did it on quite a few scans, right?

22 A. I can't quantify that.

23 Q. Would you be surprised to know that in production in

24   this case we've uncovered 2,500 Bosch CDR reports on

25   your system from the period of July 19th, 2019 to

1   November 11, 2021?

2   A.   Can you repeat the date?

3   Q.   From July 19th, 2019 to November 11th, 2021.

4   A.   Okay.

5   Q.   2,500, about 2,500 Bosch reports.

6   A.   Okay.

7   Q.   Does that surprise you?

8   A.   Not really, no.

9   Q.   But that is -- to save a Bosch report on your system

10   is to use the CDR-Replay from a CrashScan app, is that

11   right?

12 A.   Can you rephrase the question?

13 Q.   Sure. For Collison Sciences to have a Bosch report on

14   its system, that involved using CDR-Replay to produce

15   the report?

16 A.   Correct.

17 Q.   Is it correct that your CrashScan application of --

18   has a lot of automated e-mails as part of the system,

19   in general?

20 A.   Sure, we can go with that.

21 Q.   I think some of the e-mails are a notice when somebody

22   scans, they get an e-mail that a report is available,

23   right?

24 A.   Correct.

25 Q.   You've also put into your system automatic e-mails for

1   certain vehicles that may have issues, is that right?

2   If you'd rather look at a document, we can do that.

3   A.   Sure, let's do that.

4   Q.   Let's go to 76.

5   A.   Yep.

6   Q.   So Exhibit 76 --

7   THE ARBITRATOR: Give us just one minute.

8   MR. ZELLER: Sure.

9   THE ARBITRATOR: Thanks.

10 BY MR. ZELLER:

11 Q.   Exhibit 76 is an automatic e-mail from your CrashScan

12   service, is that right?

13 A.   Yes.

14 Q.   If I have characterized that wrong, feel free to let

15   me know.

16   This particular e-mail is -- has a subject

17   line of uncoded Subaru -- Alert - Uncoded (sic) Subaru

18   Vehicle Model Scanned, correct?

19 A.   Incorrect.

20 Q.   Oh, I'm sorry.

21 A.   Undecoded.

22 Q.   Okay, Undecoded. So what that means is that somebody

23   used the CrashScan application to a Subaru vehicle

24   that automatically produced this e-mail, is that

25   right?

1   A.   Correct.

2   Q.   And it goes to you, right?

3   A.   Correct.

4   Q.   Now, the e-mail, in the body, says this is a Subaru

5   that uses cable 614 or 616. Use CDR-Replay to decode

6   information, is that correct?

7   A.   Correct.

8   Q.   So if you get this e-mail, then you run CDR-Replay to

9   view a Bosch report, correct?

10 A.   It's a message that I coded it to myself that I should

11   consider using the CDR-Replay. I don't know if I did

12   in this case.

13 Q.   So it's just to consider it?

14 A.   It's a reminder; it's an alert.

15 Q.   Can you look at Exhibit 77? This is another automatic

16   e-mail that the system sends, is that right?

17 A.   Yes.

18 Q.   And this one in particular flags the fact that the

19   scan was for a vehicle that uses FCA cables 387 and

20   821, correct?

21 A.   Correct.

22 Q.   It instructs you to check data decoding scheme with

23   CDR-Replay, correct?

24 A.   Correct.

25 Q.   It also says the report has been placed under review.

1   That means you haven't released the report yet,

2   correct?

3   A. Correct.

4   Q. The user can't access the report?

5   A. No, they cannot.

6   Q. You have to manually release report for the user to

7   get it, is that right?

8   A. Correct.

9   Q. Let's go to Exhibit 82. Exhibit 82 is another

10   automatic e-mail from the system, is that correct?

11 A. Correct.

12 Q. And Exhibit 82 is for a Mazda cable 831, is that

13   right?

14 A. Yes.

15 Q. In particular, it instructs you to check data decoding

16   scheme with CDR-Replay, correct?

17 A. Yes.

18 Q. Can you look at 86? Exhibit 86 is another automatic

19   e-mail that the system sends to you, correct?

20 A. Yes.

21 Q. And this particular one is for a BMW cable 798 module,

22   correct?

23 A. Yes.

24 Q. Now, again, this e-mail instructs you to check data

25   decoding scheme with CDR-Replay, right?

1   A.   Yes.

2   Q.   And this one also has the report under review. So you

3   have to go and manually release it to the customer?

4   A.   Yes.

5   Q.   Last one, 88.

6   A.   Yes.

7   Q.   All right. Exhibit 88 is also an automatic e-mail the

8   system sends to you, correct?

9   A.   Yes.

10 Q.   This one is for a BMW. Unknown Software Version is

11   the title, correct?

12 A.   Yes.

13 Q.   All right. This is complicated, but in essence, it's

14   the response to a particular hexadecimal relationship,

15   is that correct?

16 A.   A response to a hexadecimal request.

17 Q.   Okay. It's not what you expected it to be, is that --

18 A.   It is not something that we have seen before.

19 Q.   Oh, okay. Just so I'm clear, is Exhibit 88 unique in

20   the sense it's not a preprogrammed -- it comes up with

21   what your error code is, is that right?

22 A.   I'm sorry, can you clarify the question?

23 Q.   Well, you know what, I want you to clarify. You said

24   it's something you hadn't seen before.

25 A.   Right. It says the response to -- hold on, I'm going

1   to read it. So it's saying the response to that

2   particular request is not among this list of software

3   versions.

4   Q. Okay. Then the e-mail instructs you to check data

5   decoding scheme with CDR-Replay, right?

6   A. Yes.

7   Q. So you need to check the Bosch report to make sure

8   you're decoding it correctly?

9   A. I don't need to.

10   Q. Why not?

11   A. I could just release a report or I can delete the scan

12   and tell the client we can't support a vehicle.

13   Q. I'm going to do one more. Exhibit 87.

14   A. Okay.

15   Q. 87 is another automatic e-mail the system sends to

16   you, correct?

17   A. Correct.

18   Q. In this case, a Honda Accord was scanned and the

19   e-mail has a subject of Honda Cable 825 Module

20   Scanned, correct?

21   A. Yes.

22   Q. This e-mail instructs you to check data accuracy with

23   CDR-Replay, correct?

24   A. Yes.

25   Q. Also to check if any new information is available,

1   right?

2   A.   Yes.

3   Q.   You would check for new information so that you could

4   update your own database, correct?

5   MR. MONSMA: Object to the form of the

6   question.

7   THE ARBITRATOR: Overruled.

8   A.   Can you rephrase?

9   BY MR. ZELLER:

10   Q.   Well, the reason you would check for new information

11   is so you can make corrections in your own software,

12   correct?

13   A.   Not necessarily corrections.

14   Q.   Modifications?

15   A.   Additions.

16   Q.   Changes; let's put it that way.

17   A.   Sure.

18   Q.   Exhibit 124. We're back in binder 2. Exhibit 124 is

19   an e-mail from you to Jason Bayley, January 10th,

20   2020, correct?

21   A.   Yes.

22   Q.   And there's also an e-mail string of you sending an

23   e-mail to him the day before where you say, Jason, got

24   a problem on this one, correct?

25   A.   Yes.

1 Q. And you describe a problem of a Delta-v in the

2   reporting?

3 A. Can I read it?

4 Q. Of course.

5 A. Okay.

6   THE ARBITRATOR: Steve, you might want to

7   ask that question again.

8 BY MR. ZELLER:

9 Q. The e-mail on the bottom was you commenting that you

10   had a report that showed a problem with maximum

11   Delta-v, is that right?

12 A. Yes.

13 Q. I think these are all together. Can you look at -- oh

14   no, that's part of the e-mail -- page 3 of 124, page

15   3.

16 A. Okay.

17 Q. This is a forwarding e-mail that started the string,

18   right?

19 A. Yes.

20 Q. So you initially forwarded to Jason an automatic

21   vehicle from CrashScan?

22 A. Yes.

23 Q. And so page 3 represents that an investigator scanned

24   a vehicle, 2012 Nissan Versa, using the CrashScan

25   application, correct?

1   A.   Yes.

2   Q.   And it says in your e-mail to Jason that you generated

3   a Bosch report, correct?

4   A.   Yes.

5   Q.   And then you ended up sending it to him as well, and

6   that's Exhibit 125.

7   A.   Yes.

8   Q.   You attached it.

9   A.   Okay.

10 Q.   So you had a problem with a scan that a customer had

11   using CrashScan and you generated a Bosch report to

12   try to solve it, correct?

13 A.   Sorry, can you repeat your question?

14 Q.   Sure. A customer used CrashScan on this 2012 Nissan

15   Versa. When the report came to you, you noticed a

16   problem and ran the Bosch CDR tool to generate a

17   report?

18 A.   Yes. I'll add, in this case the problem was on the

19   Bosch side, just to clarify for the record.

20 Q.   But you don't know that for sure, do you?

21 A.   I did after checking some other data points.

22 Q.   Do you have access to the specifications that the OEMs

23   provided to Bosch?

24 A.   No.

25 Q.   Do you have access to any of the quality control

1   reports that would have gone into the Bosch CDR

2   software?

3 A. No. At the time, we had access to training materials

4   and it pointed out particular issues with older

5   generation Nissan models, and that's Exhibit 124-2.

6 Q. Can you go to Exhibit 121? You'll notice at the

7   bottom of Exhibit 121 that it's an automatic e-mail

8   that you're copied on that the system sends, in this

9   case, to George White for -- telling him he can

10   download the scan that he did of a vehicle with

11   CrashScan, is that right?

12 A. No.

13 Q. No?

14 A. I was not copied on the e-mail.

15 Q. Okay, you're right. I apologize for that.

16   But the original e-mail is the automatic

17   e-mail the system sends to George White when he

18   scanned, in this case, a 2020 Ford Explorer, correct?

19 A. I'll correct for the record that I don't think he does

20   the scan himself; he gets copied on the scan, so he

21   gets a scan notification.

22 Q. His company, somebody at his company, performed the

23   scan, right?

24 A. Yes, and he gets a copy of it.

25 Q. Sure. So the bottom line is an automatic e-mail that

1   goes out in the system, and in this particular case

2   somebody scanned a 2020 Ford Explorer, correct?

3   A.   Yes.

4   Q.   Now, the middle e-mail, I guess, is Jason Bayley

5   forwarding -- or George White to Jason Bayley when he

6   requests the raw data. Can you assist? Do you see

7   that?

8   A.   Yes.

9   Q.   The top e-mail is an e-mail from you to George White,

10   April 29th, 2020, where you write, sorry for the late

11   response. Here's the report containing the raw

12   hexadecimal data, is that right?

13   A.   Yes.

14   Q.   And attached, which is at 122, is a Bosch report,

15   correct?

16   A.   Yes.

17   Q.   So in this case, the customer asks for the raw data

18   and Collison Sciences, being you, sent him a Bosch

19   report, correct?

20   A.   Yes.

21   Q.   And you produced this Bosch report using CDR-Replay?

22   A.   Yes.

23   Q.   During your deposition, we went through your work logs

24   -- sorry, the invoices you sent to Collison Sciences

25   when you were a contractor. Do you remember that?

1   A.   Yes.

2   Q.   Since you've got book 2, let's go to Exhibit 128.

3   Exhibit 128 is your invoice dated April 20, 2020 to

4   Collison Sciences, is that right?

5   A.   Yes.

6   Q.   And at page 2 and onward is the description of the

7   work you did during that period, is that right?

8   A.   During the period of April 1st to April 15th.

9   Q.   Right. Now, under April 1st, the second to last

10   paragraph states, replayed and checked a 2008 Toyota

11   Tacoma scan. The Delta-v resolution was updated and

12   then the report was released.

13   When you wrote replayed and checked, you

14   meant that you used the CDR-Replay, correct?

15   A.   Yes.

16   Q.   And you produced a Bosch report?

17   A.   Yes.

18   Q.   And that's what you checked to update the Delta-v

19   resolution, correct?

20   A.   Yes.

21   Q.   After you checked it, you released the Collison

22   Sciences' report to the customer?

23   A.   Correct.

24   Q.   Can you go to page 4, top right corner. Sorry, from

25   page 3, we're looking at April 3rd entries, right?

1   A.   Yes.

2   Q.   So at page 4 in the second paragraph you wrote,

3   replayed and checked a 2006 Saturn Ion. The report

4   looked good, but the longitudinal Delta-v was off by

5   .02 miles per hour. Fed fake values back to the CDR

6   to get a more accurate resolution. Updated the

7   resolution in Python. Do you see that?

8   A.   Yes.

9   Q.   So you produced a Bosch report using CDR-Replay,

10   correct?

11   A.   Yes.

12   Q.   And after you did that, you made changes in Collison

13   Sciences' Python code, correct?

14   A.   Yes.

15   Q.   Now we're going to volume 1, Exhibit 70. Exhibit 70

16   is another one of your invoices dated January 23rd,

17   2020 for the period of the first 15 days of January,

18   is that right?

19   A.   Yes.

20   Q.   So the entry for January 5th is on page 4. The entry

21   starts with replayed the AmFam, which is American

22   Family, HUB scan from yesterday (2011 Toyota Camry),

23   is that right?

24   A.   Yes.

25   Q.   Then it has some detail, it's not that important, but

1   the third line says, released the AmFam HUB Toyota

2   scan after the modification in server code.

3   That means that you produced a Bosch report

4   with the CDR-Replay?

5   A.   Yes.

6   Q.   And you made some modifications in Collison Sciences'

7   server code, correct?

8   A.   Correct.

9   Q.   And after you did that, you released the Collison

10   Sciences' report to a customer?

11 A.   Correct.

12 Q.   So you used the Bosch report to check the accuracy of

13   the Collison Sciences' report?

14 A.   In this instance, yes.

15 Q.   How about page 6 of this one.

16 A.   Yeah.

17 Q.   Under January 8th, it is the sixth paragraph.

18 A.   Okay.

19 Q.   It reads, checked AmFam 2010 Toyota Corrolla and 2011

20   Ford Fusion reports done by Ethos. Replayed both

21   files and checked both reports. Everything looked

22   good.

23   So in this case, you ran CDR-Replay to

24   generate Bosch reports, correct?

25 A.   Sorry, can you repeat the question?

1   Q.   In this case you ran CDR-Replay to produce Bosch

2   reports?

3   A.   Correct.

4   Q.   And in this case everything was fine and so you could

5   release the CrashScan report to the customer?

6   A.   Correct.

7   Q.   But only after you checked them against the Bosch

8   report?

9   A.   In this instance, yes.

10 Q.   Throughout what I've referred to as your work logs, is

11   that an okay way of representing what these are?

12 A.   Sure.

13 Q.   Your invoices?

14 A.   Yes.

15 Q.   Throughout here, you frequently used the word replayed

16   a file -- replayed a scan, and that means that you

17   took a scan that somebody did with CrashScan and ran

18   it through CDR-Replay to generate a Bosch report?

19 A.   What was the question?

20 Q.   Sorry. You frequently used the term replayed a scan,

21   right, either replayed or replay; that means you took

22   a scan that somebody did and ran CDR-Replay to produce

23   a Bosch report?

24 A.   Not necessarily, no.

25 Q.   If it says replayed a scan --

1   A.   It could be with other tools. It could be with the

2   Hyundai tool. I'm not going to be able to go over

3   ever instance.

4   Q.   Fair enough. Let's narrow it down. If it's a

5   Hyundai/Kia, you would replay with the Hyundai tool,

6   is that right?

7   A.   It's a Hyundai scan, I can use CDR-Replay to feed data

8   to the Hyundai tool, that's correct.

9   Q.   That's what I'm saying. Do you do Tesla scans?

10 A.   Sorry?

11 Q.   Does Collison Sciences handle Teslas?

12 A.   Yes.

13 Q.   Do you use a Tesla tool?

14 A.   No.

15 Q.   What other tools do you use CDR-Replay for that read

16   crash data?

17 A.   What other tools other than?

18 Q.   Bosch, the Bosch CDR tool, or the Hyundai tool.

19 A.   We have a Chinese EDR tool that can also provide EDR

20   data.

21 Q.   So other than a Chinese -- is that an OEM?

22 A.   No, it's a tool maker, if you will.

23 Q.   And that tool works with CDR-Replay?

24 A.   Correct.

25 Q.   When did you start using that?

1   A.   I can only say last year. I'm not going to be able to

2   pinpoint when in time.

3   Q.   Last year?

4   A.   Correct.

5   Q.   So wait, let me get this straight: It is a Chinese

6   tool; is it software?

7   A.   It's software and hardware.

8   Q.   Okay. So back in 2000 when these invoices are, when

9   you use the word replay --

10 A.   Sorry, back in 2000?

11 Q.   Sorry, 2020. Your invoices are 2020.

12 A.   Okay.

13 Q.   If you use the word replay and it's not a Hyundai or

14   Kia, you were using the Bosch software, correct?

15 A.   Most likely, yes.

16 Q.   One more, let's go to Exhibit 73. Exhibit 73 is your

17   invoice dated May 18th, 2020 for the first half of

18   that month, May 2020, right?

19 A.   Correct.

20 Q.   All right. Page 9 under May 12th.

21 A.   Okay.

22 Q.   All right. Fourth paragraph, you wrote, got a 2012

23   Dodge Grand Caravan scanned that had some weird

24   decoding issue. Did a CDR-Replay and the report came

25   out clean. Checked the Python source code and

1   corrected an error in the Delta-v calculation code.

2   Now, that means that you took the scan that

3   somebody did for the 2012 Dodge Grand Caravan using

4   CrashScan, took that data and ran it through

5   CDR-Replay to produce a Bosch report, correct?

6   A.   Yes.

7   Q.   And in your view, the Bosch report looked fine,

8   correct? You wrote it came out clean.

9   A.   Yeah, I don't recall what I meant by that.

10 Q.   Okay. But in any event, you went to Collison

11   Sciences' Python code and made corrections, correct?

12 A.   Yes.

13 Q.   Mr. Hsu, when is the last time you generated a Bosch

14   report?

15 A.   Last Friday.

16 Q.   What version of Bosch software are you using?

17 A.   I don't know for sure.

18 Q.   What was the context that you used the Bosch software

19   last Friday?

20 A.   I think I just had to check something to see what

21   Bosch -- get a second opinion to see what they have to

22   say.

23 Q.   Was it in response to a -- somebody using the

24   CrashScan application?

25 A.   Most likely, yes.

1   Q.   Is it fair to say that you're continuing to look at

2   the Bosch reports to support the CrashScan

3   application?

4   A.   Can you repeat the question?

5   Q.   Is it fair to say that you're using Bosch CDR tool

6   software to support the CrashScan application?

7   A.   I will say I'll reference it just to say, for example,

8   what vehicles out there have EDR capability.

9   Q.   So the example you said Friday, did you know that the

10   vehicle already had EDR capability?

11 A.   I think so, yes.

12 Q.   And you testified that it was to just get a second

13   opinion last Friday?

14 A.   Correct.

15 Q.   So is it fair to say to verify what the CrashScan was

16   generating for a report?

17 A.   I'd say to compare; basically getting a second opinion

18   to see what Bosch has to say.

19   MR. ZELLER: I have nothing else.

20   THE ARBITRATOR: All right. Well, should

21   we take a break before we do cross?

22   MR. MONSMA: Yes.

23   THE ARBITRATOR: We'll come back in 15

24   minutes.

25   (Off the record at 10:11 a.m.)

1   (Back on the record at 10:30 a.m.)

2   THE ARBITRATOR: Let's go back on the

3   record. Steve, you had a couple of additional matters

4   you wanted to cover. Go ahead.

5   MR. ZELLER: Thank you.

6 BY MR. ZELLER:

7 Q.   I wanted to authenticate a couple documents with you.

8   Can you look at 69, Exhibit 69?

9 A.   Okay.

10 Q.   Exhibit 69 is an invoice you sent to Collision

11   Sciences, April 2nd, 2018, looks like a period from

12   the end of April of 2018, for that work, correct?

13 A.   May 2nd.

14 Q.   May 2nd?

15 A.   Yes.

16 Q.   After that is all the work that you did during that

17   period, is that right?

18 A.   Yes.

19 Q.   Exhibit 71. Exhibit 71 is an invoice you sent to

20   Collision Sciences, April 7th, 2020, is that correct?

21 A.   Yes.

22 Q.   It looks like for the work that you did in the second

23   half of March of 2020, is that correct?

24 A.   Yes.

25 Q.   And again, after that is the details of the work that

1   you performed, right?

2   A.   Yes.

3   Q.   Exhibit 72.

4   A.   Okay.

5   Q.   Exhibit 72 is the invoice you sent to Collision

6   Sciences, May 4th, 2020, and covers the work for the

7   second half of April of 2020, is that right?

8   A.   Yes.

9   Q.   And then again after that is the work you did during

10   that period?

11   A.   Yes.

12   MR. ZELLER: That's it. Thank you.

13   THE ARBITRATOR: Okay. Tim.

14   EXAMINATION

15   BY MR. MONSMA:

16   Q.   Brian, I just have a couple questions for you. Mr.

17   Zeller asked you about your educational background,

18   and to speed this up: You have a BA from Boston

19   University, right?

20   A.   I have a bachelor of science in mechanical engineering

21   from Boston University.

22   Q.   Then you have a master's in mechanical engineering

23   from Stanford?

24   A.   Correct.

25   Q.   You're currently the chief technology officer of CSI?

1   A.   Yes.

2   Q.   You heard me talk to Mr. HelfinSiegel about kind of

3   three products that Collision Sciences has created; is

4   that -- do you remember me talking to him about that?

5   A.   Yes.

6   Q.   Just to clarify for you, that's CrashScan, the AWS

7   server, and the CDR-Replay.

8   A.   Okay.

9   Q.   Could you explain each of those in layman's terms;

10   what they do, how they function?

11 A.   Sure. So CrashScan is our mobile application. It is

12   available on Android and IOS. It is free to download.

13   Our user will reach out and request access. Once we

14   set up an account for them, they will use the app to

15   scan vehicles.

16   To scan a vehicle, the mobile application

17   actually needs a Bluetooth device called OBD Link MX+.

18   The OBD Link MX+ connects physically to a vehicle, and

19   then the mobile application communicates wirelessly

20   through Bluetooth to the device and that completes the

21   circuit, if you will.

22   The mobile application is Internet-based,

23   so you can scan the vehicle and the results from the

24   scan are uploaded to our Amazon servers. Which then

25   brings me to our Amazon server. It's the brain of our

1   operation. It interacts with the app and it's also

2   responsible for providing reports to clients; it

3   stores data in its database.

4   And then the last piece of the puzzle, if

5   you will, is CDR-Replay. And like I explained in my

6   testimony earlier, CDR-Replay is a virtual vehicle

7   module -- vehicle simulator. So basically you can

8   simulate vehicle data transmission. Once it receives

9   a request, it can transmit a response, and that is --

10   that can work with any tool that relies on the OBD

11   Link; it could be a diagnostic tool, it could be a

12   crash data tool, and it can work with our app as well.

13 Q. Okay. So does CDR-Replay have a functionality beyond

14   interacting with the Bosch CDR tool?

15 A. Yes.

16 Q. Can you explain that?

17 A. Yes. It functions as a vehicle module simulator. So

18   basically you can think of it as a virtual module. If

19   you send a request to it, it can generate some

20   response, and that's kind of helpful doing app

21   development as well.

22 Q. Does the CDR-Replay tool incorporate the Bosch CDR

23   tool?

24 A. No.

25 Q. I think I heard you say this, but if I didn't, correct

1   me, but essentially when you use the CDR-Replay tool,

2   it's functionally equivalent to connecting directly to

3   an airbag module, is that accurate?

4 A. Yes.

5 Q. And when was the CDR-Replay tool complete?

6 A. I believe in 2017.

7 Q. When you run CDR-Replay, the CDR-Replay tool, to

8   communicate with the Bosch CDR tool, is your computer

9   connected directly to the Bosch tool?

10 A. Yes.

11 Q. It's not a remote transmission?

12 A. No, it's usually under my desk and connected by a USB

13   cable.

14 Q. Let me ask you a similar question but with respect to

15   the CrashScan app: When was the CrashScan app

16   complete?

17 A. 2018.

18 Q. Does the CDR-Replay tool need a vehicle to work?

19 A. No.

20 Q. Does a Bosch report get generated automatically when

21   you run CrashScan?

22 A. No.

23 Q. Did you occasionally use the Bosch CDR tool as a, I

24   think I heard you use the term, second opinion?

25 A. Yes.

1 Q. Does the CDR-Replay tool -- I think I might have asked

2   you this -- does it incorporate the Bosch CDR tool?

3 A. No.

4 Q. Does the CDR-Replay tool depend on the Bosch tool?

5 A. No.

6 Q. Can the CDR-Replay tool operate without the Bosch CDR

7   tool?

8 A. Yes.

9 Q. So I think an example, you could communicate with a

10   Kia CDR tool, correct?

11 A. Correct.

12 Q. You could use CDR-Replay in exactly the same way,

13   right?

14 A. Correct.

15 Q. And the CDR-Replay, it essentially takes inputs from a

16   car and produces the same outputs for a tool to

17   interpret, correct?

18 A. Right.

19 Q. In practice, does CSI use the Bosch tool to

20   double-check every scan?

21 A. No.

22 Q. Is the CrashScan app a substitute for the Bosch tool?

23 A. No, they complement each other.

24 Q. In what way?

25 A. In some cases -- I just don't think we compete with

1   Bosch.

2   Q.   Same question about CDR-Replay: Is that a substitute

3   for the Bosch product?

4   A.   No.

5   MR. MONSMA: I don't have any other

6   questions.

7   THE ARBITRATOR: Okay. Any re-direct or

8   re-cross from you, Steve?

9   MR. ZELLER: Yes.

10   THE ARBITRATOR: Take your time.

11   RE-EXAMINATION

12   BY MR. ZELLER:

13   Q.   Mr. Hsu, can you clarify something for me? I believe

14   you just testified that when you run CDR-Replay the

15   computer is directly connected to the Bosch tool. Did

16   you say that?

17   A.   Yes.

18   Q.   What tool are you referring to?

19   A.   Sorry, can you repeat?

20   Q.   What tool are you referring to?

21   A.   Can you repeat the sentence before, I testified that?

22   Q.   That your computer is directly connected to the Bosch

23   tool, and you said it's under your desk?

24   A.   Yeah.

25   Q.   What tool are you referring to?

1   A.   The Bosch CDR tool.

2   Q.   What are you referring to when you say Bosch CDR tool?

3   A.   I'm not sure I understand your question.

4   Q.   Can you physically describe what you're referring to?

5   A.   It's a green box.

6   Q.   So the interface, the VCI, is what you're talking

7   about?

8   A.   Correct, vehicle communication interface.

9   Q.   When you use CDR-Replay to run the Bosch CDR software,

10   your computer is not directly connected to a vehicle,

11   correct?

12 A.   Correct.

13 Q.   Do you know why your tool is called CDR-Replay?

14 A.   I don't know actually.

15 Q.   Do you know that CDR is -- was coined by the

16   predecessor of Bosch as their brand for the tool?

17 A.   I heard that yesterday from Mr. Rose's testimony, yes.

18 Q.   You testified that the CDR-Replay was complete in

19   2017, is that right?

20 A.   Yes.

21 Q.   Do you know a man named Renan Pedrosa?

22 A.   Yes.

23 Q.   He was a software contractor working on various things

24   for Collision Sciences, right?

25 A.   Yes.

1	Q.	And he was working on coding CDR-Replay for one,
2		right?
3	A.	I guess. I don't know for sure.
4	Q.	You worked together and collaborated with him on that
5		at various times?
6	A.	I don't recall exactly.
7	Q.	Do you recall that he was working on CDR-Replay in
8		November of 2018?
9	A.	Not specifically, no.
10	Q.	Can you look at Exhibit 54? Exhibit 54 is an e-mail
11		from you to Renan Pedrosa and CC'd Jason Bayley
12		November 22nd, 2018, correct?
13	A.	Correct.
14	Q.	It's an e-mail chain and the first e-mail is from
15		Renan writing to you that he had got the CDR-Replay
16		for VPW working. Do you see that?
17	A.	Yes.
18	Q.	He was working on CDR-Replay coding at the time,
19		right?
20	A.	For VPW, correct.
21	Q.	Well, doesn't matter what it was for; he was working
22		on the code; yes?
23		MR. MONSMA: Object to the form of the
24		question.
25		THE ARBITRATOR: Overruled.

1   A.   I think it does matter if we're talking about the

2   protocol, but he was working on some -- he was working

3   on CDR for VPW, which is a protocol.

4   BY MR. ZELLER:

5   Q.   So it's not really accurate that CDR-Replay was

6   complete in 2017, right?

7   A.   The can version was.

8   Q.   That's not what you testified to, right? You said

9   that the software was complete or the product was

10   complete?

11   A.   Yes.

12   Q.   Yes, you agree that's what you testified to?

13   A.   I agree that's what I testified, yes.

14   Q.   But now you just changed and said the can version was

15   complete?

16   A.   Correct.

17   Q.   You've produced Bosch reports since 2020 for reasons

18   other than just as a second opinion, correct?

19   A.   Sorry, can you repeat the question?

20   Q.   You've produced Bosch reports for reasons other than

21   just as a second opinion?

22   A.   I don't recall exactly.

23   Q.   But I think you testified -- Mr. Monsma asked you that

24   you confirmed that you testified that you used it

25   occasionally as a second opinion --

1   A.   Correct.

2   Q.   -- is that right?

3   A.   Yeah.

4   Q.   My question is: You've produced it for other reasons

5   other than just a second opinion, correct?

6   A.   I might have produced it to send it to our clients. I

7   think we discussed it in the deposition, that we have

8   provided Bosch reports to clients, and I don't

9   remember which year, but we have done that. It might

10   have been during 2020.

11 Q.   My question though is: When we saw the examples of

12   you producing a Bosch report and making changes to

13   your code, that's more than just a second opinion, is

14   that right?

15 A.   I disagree; I think that is a second opinion.

16 Q.   Just one of the things you said earlier when we were

17   talking about the Nissan Versa --

18 A.   Yes.

19 Q.   -- was that the error was in the Bosch software.

20 A.   That's what I testified, correct.

21 Q.   Why would the error on the Bosch software show up on

22   the Collision Sciences' report?

23 A.   It wouldn't.

24 Q.   But that's what prompted you to have a problem with

25   the Collision Sciences' report, right?

1   A.   Yeah, I don't recall what exactly was the problem, but

2   I'll testify that I generated a Bosch report to -- in

3   that instance.

4   MR. ZELLER: I have nothing further.

5   THE ARBITRATOR: Tim, anything further?

6   RE-EXAMINATION

7   BY MR. MONSMA:

8   Q.   Just briefly, you may have it in front of you still,

9   Mr. Zeller asked you about Exhibit 54. You don't have

10   to pull it up. It was an e-mail with Renan about a

11   certain aspect, and Mr. Zeller quibbled with you about

12   whether it was in 2017 or 2018. So my question is:

13   Regardless of what the exact date was, are you

14   confident that it was finished before 2019?

15 A.   Yes.

16   MR. MONSMA: No other questions.

17   THE ARBITRATOR: Okay. All right. Next

18   witness?

19   MR. ZELLER: We're going to call Jason

20   Bayley.

21   JASON BAYLEY,

22   was thereupon called as a witness herein, and after

23   having first been duly sworn to testify to the truth,

24   the whole truth and nothing but the truth, was

25   examined and testified as follows:

1	EXAMINATION
2	BY MR. ZELLER:
3	Q. Good morning, Mr. Bayley.
4	A. Good morning.
5	Q. We've met previously in deposition, as you know. I
6	represent Bosch here. You were previously a crash
7	investigator before your career with Collision
8	Sciences, right?
9	A. Correct.
10	Q. You had experience with the Bosch tool during that
11	time period?
12	A. Yes.
13	Q. And you testified in court at least once. Do I have
14	that right?
15	A. Yes.
16	Q. You created Collision Sciences, is it fair, to make
17	EDR data more accessible, is that right?
18	A. Correct.
19	Q. In order to do that, you had to start with the Bosch
20	CDR tool, right?
21	A. No.
22	Q. Why not?
23	A. There are other EDR tools on the market. I didn't
24	have to start with the Bosch tool.
25	Q. Fair enough. To be able to make EDR data for most of

1   the market accessible, you had to start with the Bosch

2   tool, is that right?

3 A. Correct.

4 Q. When you initially started Collision Sciences, was

5   your intention to provide wireless access to a Bosch

6   report?

7 A. No.

8 Q. Had you always intended to create your own report?

9 A. Eventually, yes.

10 Q. That's not what I asked. Your intention in creating

11   it --

12 A. Well, I suppose when we started the company we were

13   doing research and development. The way I think about

14   it was kind of spending several years in R&D trying to

15   figure out what we could do.

16 Q. In trying to figure out what you could do, you had to

17   figure out how the Bosch tool worked, right?

18 A. I mean, we tried to figure out how vehicle systems

19   worked; how the airbag modules worked, communicated.

20 Q. To do that, you had to use the Bosch tool and try to

21   figure out how that was communicating --

22 A. Right. We didn't have to, but we did. We would have

23   looked at airbag modules and looked at the firmware

24   specifically to try to figure out how to communicate

25   to the module in the car.

1   Q.   But like you said, that's not what you did --

2   A.   Correct.

3   Q.   -- right?

4   A.   Correct.

5   Q.   You actually went out and hired several different

6   software engineers to help with this project, right?

7   A.   Correct.

8   Q.   So can you look at 135? When you hired these software

9   engineers, your specific instructions were to reverse

10   engineer the Bosch tool, right?

11   A.   I don't recall if those were my instructions.

12   Q.   All right. Looking at Exhibit 135, it is an e-mail,

13   it says from Collision Sciences, but it's from you,

14   correct?

15   A.   Correct.

16   Q.   And to CP Karpagam, I believe you mentioned during the

17   deposition that's a woman?

18   A.   Correct.

19   Q.   And a software engineer, correct?

20   A.   I don't recall her credentials actually.

21   Q.   A developer?

22   A.   I believe so.

23   Q.   And it's a series of e-mails and I want to direct your

24   attention to the second page. There's an e-mail on

25   April 27, 2017 and you wrote, hi Karpagam, please take

1   all the time you need with the NDA getting --

2   including getting legal advice. And specifically you

3   wrote, the opportunity I'm offering to start is an

4   independent contractor role for software review and

5   development, reverse engineering, if required, to get

6   the project to a demo level, is that right?

7 A. I wrote that, that's correct.

8 Q. So if required, you were going to expect her to

9   reverse engineer the Bosch software?

10 A. I said if required.

11 Q. That's how I said it.

12 A. I didn't say the Bosch software.

13 Q. I'm sorry, this is 43, and that might be in book 1.

14   Actually, it's Exhibit 42, it's the one before it,

15   sorry.

16   Exhibit 42 is an e-mail from you to Brian

17   Hsu, September 12, 2017, is that correct?

18 A. Yes.

19 Q. You wrote to him, can you please forward me your

20   resume so we have it on file? And next you wrote, to

21   recap our call, in point 4, you said, to think on, can

22   we automate the reverse engineering of many vehicles?

23   It's unlikely, but I'm curious if it's possible. You

24   wrote that, right?

25 A. Yes.

1   Q.   And you were talking about reverse engineering the

2   Bosch software for a lot of vehicles, is that right?

3   A.   Not necessarily. I mean, for example, there are a lot

4   of PDF reports in the public, so they have the hex

5   data and numerical data. So if you can figure out

6   artificial intelligence that can reverse engineer the

7   translation -- I was conceptualizing a lot on

8   different ideas.

9   Q.   Okay. Then look at Exhibit 43 then. Exhibit 43 is

10   another e-mail from you to Brian Hsu and Renan

11   Pedrosa, who we mentioned earlier, September 25th,

12   2017. I'm going to start with the e-mail that starts

13   September 25th, a little bit further down. Again from

14   you, and you wrote in the second line, I guess, also

15   please don't give up too quickly on the firmware. We

16   may try the other software Firm Walker. The last

17   thing you wrote was, Renan, please share any progress

18   ideas on the firmware. You mentioned you had some

19   other software reverse engineering ideas.

20   You were definitely talking about reverse

21   engineering software with your developers at that

22   time, correct?

23   A.   Yes.

24   Q.   And then at the top you forwarded a Google link for

25   the search term reverse engineering encrypted

1   firmware, is that right?

2   A.   Yes.

3   Q.   And you forwarded that to your developers?

4   A.   Yes.

5   Q.   Can you look at exhibit 46? This is another e-mail

6   from Brian to you and CC'ing Renan, October 12th,

7   2017, and it's a chain that -- the second e-mail in

8   the chain is October 12th from you. And you wrote on

9   the third line, I will send some info I've gathered on

10   the Toyota CT algorithm which may help but also may

11   need to be reversed engineered further also.

12   You wrote that, right?

13   A.   Yes.

14   Q.   It's a reference to reverse engineering the particular

15   Toyota security encryption for their EDR data, right?

16   A.   I don't know the context in which I said this. I may

17   have found some information online. And when I say

18   may also be need to be reverse engineered, I don't

19   know; conceptual. I don't know what I was referring

20   to.

21   Q.   All right.

22   A.   There's a lot of information in the automotive

23   aftermarket online to find about how to communicate to

24   modules. There's an airbag crash data reset

25   community; everyone wants to delete crash data, so

1   there's so much information online about how to

2   communicate to airbag modules.

3 Q. That's a hacker community, right?

4 A. Yes. Well, I wouldn't call it that, but...

5 Q. I mean, deleting crash data from an airbag is only for

6   nefarious reasons, right?

7 A. No. It's to reuse an airbag module for saving costs.

8 Q. Which isn't what an OEM would prefer, right?

9   MR. MONSMA: Objection, foundation.

10   THE ARBITRATOR: Overruled.

11 A. I think an OEM would like to sell their parts to make

12   more profit, but it's completely acceptable to, in

13   common practice, delete crash data. We don't like it

14   in our business, we want crash data to be in cars, but

15   it happens.

16 BY MR. ZELLER:

17 Q. Around the same time that you were trying to develop

18   this app, you were reaching out to OEMs, is that

19   right?

20 A. Correct.

21 Q. And the purpose of reaching out to the OEMs was to get

22   the actual specifications for EDR data, is that right?

23 A. Correct.

24 Q. Can you look at Exhibit 175? So it's going to be in

25   book 3. We can start with 174, that might make it

1   easier.

2   THE ARBITRATOR: Do you have another copy

3   of that binder?

4   MR. ZELLER: Yes.

5   BY MR. ZELLER:

6   Q.   Looking at Exhibit 174, it's an e-mail from you to

7   somebody at Ford, Catherine, but you wrote this

8   September 2017, correct?

9   A.   Yes.

10 Q.   And you wrote to somebody at Ford to request access to

11   the EDR specifications, correct?

12 A.   Correct.

13 Q.   Under the title of about project, you wrote the

14   project was developed for the U.S.-based Invent with

15   Bosch program. We built an API for their crash data

16   retrieval system. The Bosch CDR tool is a $5,000 kit

17   and ours replaces their hardware with a $100 OBD

18   adapter. You wrote that, correct?

19 A.   Right.

20 Q.   And in this case, as you wrote, we built an API for

21   their crash data retrieval system; you meant it was to

22   access Bosch software?

23 A.   Correct.

24 Q.   Now, at the time, you had not -- no relationship with

25   Bosch, had you?

1 A. Correct.

2 Q. You had not submitted anything to any program with

3 Bosch?

4 A. At this time, no. The Bosch online submission form

5 had a lot of information and they actually requested

6 that you submit any patents that you have. So I --

7 before actually submitting an application, I went and

8 got a patent, so we've actually been granted a patent

9 in quite a few countries, including the U.S. and

10 Brazil, South Africa, pending in Europe and China and

11 others, and I have since applied to the Invent with

12 Bosch program after having been granted a patent.

13 Q. And let's go to Exhibit 175. Exhibit 175 is another

14 e-mail from you to a Craig Parker at Toyota.com,

15 September 7, 2017, is that right?

16 A. Yes.

17 Q. In this one you also are seeking access to the EDR

18 data from Toyota, is that right?

19 A. Correct.

20 Q. Again, you write, this project was developed with the

21 U.S.-based Invent with Bosch program. Then you state

22 we have a full working end-to-end solution where we

23 can produce a Bosch CDR report using the simple OBD

24 download, but for very limited vehicles.

25 You wrote that, right?

1 A. Correct.

2 Q. So at the time, what you're representing that you had

3   was something to access the Bosch software?

4 A. Correct.

5 Q. In fact, in the last sentence of that paragraph you

6   wrote, note that our solutions still rely on the Bosch

7   CDR hardware and software for which we have created a

8   web application.

9   So at the time, that was your intent, to

10   use the Bosch software, is that right?

11 A. Yeah, in the context of the Invent with Bosch program

12   we believed that we could have collaborated to create

13   a different business model, pay-per-use model, selling

14   Bosch reports.

15 Q. In 175, you wrote in the first paragraph toward the

16   end, you wrote, alternatively, we may create our own

17   PDF but that is not a priority.

18   You wrote that, right?

19 A. Correct.

20 Q. Eventually, Collision Sciences developed their own

21   reporting, correct?

22 A. Correct.

23 Q. Can you look at 137? That's an exhibit from you to

24   Matt Rausch at Suzuki, September 13, 2017, is that

25   right?

1   A.   Correct.

2   Q.   It's a chain that if you look at the second page, it

3   appears that you maybe filled in an online form for

4   Suzuki, is that right?

5   A.   Correct.

6   Q.   In the online form you, again, were looking for EDR

7   data or crash data licensing or access, is that right?

8   A.   Correct.

9   Q.   From Suzuki?

10   A.   Correct.

11   Q.   Again, you talk about the Invent with Bosch program on

12   the next page?

13   A.   Correct.

14   Q.   In the middle of -- back to the first page, the chain,

15   Matt from Suzuki wrote to you, I guess the next day,

16   he wrote, I also contacted the Bosch CDR group and

17   they told me that they are not working with you on

18   your project as you stated. Do you see that?

19   A.   Correct. I did not specifically state I was working

20   with Bosch or the CDR Crash Data Group people. I

21   referenced the Invent with Bosch program.

22   Q.   Now, you didn't -- that's not what you responded. You

23   responded, again, to Matt Rausch, and the first thing

24   you said was the CDR Group distributor is not aware of

25   the project. Do you see that?

1 A.   Yes.

2 Q.   He didn't say distributor, did he?

3 A.   He said I contacted Bosch CDR Group. I think CDR

4   Group is their distributor.

5 Q.   So you understood it to be a distributor. Why didn't

6   you reach out to the Bosch CDR people at the time to

7   talk about your project?

8 A.   Well, I would consider it confidential until I submit

9   for the patent and also for the program. I don't

10   think that they needed to know; they just sell

11   equipment.

12 Q.   I'm going to change topic a little bit.

13   I think you were here for Mr. Rose's

14   testimony, and he testified about the license --

15   receipts for the licenses that Collision Sciences

16   purchased. I believe we went through those in your

17   deposition. You agree that you purchased at least

18   three licenses on behalf of Collision Sciences of

19   Bosch software, right?

20 A.   Most likely. I don't recall exactly.

21 Q.   We went through these at your deposition, but I'm

22   going to go to -- they're all over the place --

23   Exhibit 52 first.

24   At the top is an e-mail from Brian to you

25   in a chain responding to you forwarding an e-mail from

1   Bosch licenses dated January 26, 2018, is that

2   correct?

3   A.   Correct.

4   Q.   And that e-mail says, Dear Jason Bayley, thank you for

5   your recent purchase of CDR software subscription.

6   You agree that you purchased a CDR software

7   subscription on or about January 26th, 2018?

8   A.   Correct.

9   Q.   This e-mail included the activation certificate it

10   says in the fourth paragraph.

11   A.   Yes.

12   Q.   And you forwarded that to Brian, correct?

13   A.   Yes.

14   Q.   And you forwarded it to him to install and activate

15   the software?

16   A.   Yes.

17   Q.   Then we'll go to Exhibit 144. Exhibit 144 is an

18   e-mail from you to Brian and you're forwarding to him

19   the e-mail from Bosch licenses. Do you see that?

20   A.   Yes.

21   Q.   The date of e-mail from Bosch licenses is July 9th,

22   2019.

23   A.   Yes.

24   Q.   Do you see that?

25   A.   Yes.

1   Q.   And the attachments in your e-mail to Brian, it's in

2   the heading, the attachment is CDR19_1_1year_some

3   numbers.CTF (sic).   The e-mail says it attaches the

4   activation certificate.   That is the activation

5   certificate, correct?

6   A.   Correct.

7   Q.   And you forwarded it to Brian in order for him to

8   install it on the his computer, his laptop, and

9   activate it, correct?

10 A.   Yes.

11 Q.   And this represents the fact that you purchased it --

12   a license on or about July 9th, right?

13 A.   Yes.

14 Q.   All right.   170, please.   Exhibit 170 is, again, an

15   e-mail from you to Brian, January 26th, 2018,

16   forwarding an e-mail from Bosch licenses in which you

17   purchased a Bosch CDR software subscription, is that

18   correct?

19 A.   Yes.

20 Q.   And this was for version 17.6 of the Bosch software

21   and you forwarded the activation certificate, correct?

22 A.   Correct.

23 Q.   And you intended for Brian to install the software and

24   activate it using the certificate, right?

25 A.   Correct.

1   Q.   Can we talk about the CDR-Replay? You're not a coder,

2   are you?

3   A.   No.

4   Q.   Did you have any involvement in the code for

5   CDR-Replay?

6   A.   I never wrote code. I would have some involvement

7   possibly in direction or collaborating, but I don't

8   recall.

9   Q.   I think you testified during our deposition that you

10   viewed the CDR-Replay as a way to virtualize an airbag

11   module, is that right?

12 A.   Correct.

13 Q.   And CDR-Replay is an interoperable software with the

14   Bosch software and hardware, is that correct?

15 A.   Correct.

16 Q.   According to you, the CDR-Replay can't work without

17   the Bosch software, is that right?

18 A.   That's not correct; that was clarified at the end of

19   the deposition as well.

20 Q.   You know, we've had testimony that CDR-Replay can work

21   with other diagnostic software. Did you ever -- have

22   you ever used it with any diagnostic software?

23 A.   I never personally used CDR-Replay.

24 Q.   Have you ever seen it operated with diagnostic

25   software?

1   A.   Not in person. I don't recall.

2   Q.   Can we look at Exhibit 139? Exhibit 139 is an e-mail

3   from you to Chad Zinn and Tom Walsh you testified

4   before, is that right?

5   A.   I don't recall. You would know.

6   Q.   Well, yeah. You address it to Tom.

7   A.   Okay.

8   Q.   I believe you said before he used to work for TD

9   Insurance or -- and was helping you --

10 A.   Correct, he used to work for TD.

11 Q.   This is dated April 4, 2018. You write to him talking

12   through the strategic opportunity about Collision

13   Sciences, is that right?

14 A.   Correct.

15 Q.   One of the things I want to point out is on the second

16   page you provided a tech overview, and again on the

17   third page you have three bullet points -- or three

18   numbered paragraphs, and third one is ability to

19   replay the raw crash data into Bosch CDR tool. Do you

20   see that?

21 A.   Correct.

22 Q.   And that's what we've all been seeing, is that

23   CDR-Replay allows you to take data, submit it into the

24   Bosch tool, and get a Bosch report, right?

25 A.   Correct.

1   Q.   Can you go to 166, please. So 166 is an e-mail from

2   you to several people at the CommonWell, which is an

3   insurance company in Canada, is that right?

4   A.   Correct.

5   Q.   And it's dated April 12th, 2018. You write to the

6   CommonWell claims team, and you had been in

7   discussions with them about having a collaboration

8   with your services, is that right?

9   A.   Yes.

10 Q.   So it's safe to say this was an e-mail you were

11   sending to try to get business?

12 A.   Yes.

13 Q.   There's a couple of attachments listed on the e-mail

14   and they are in the next two exhibits. The first one

15   looks like it's a Bosch report, and in the e-mail you

16   say you attached the presentation slide deck?

17 A.   Right.

18 Q.   And the crash data report for the Buick from the live

19   app demo. So you had a presentation to the

20   CommonWell?

21 A.   Right.

22 Q.   You did a live demo?

23 A.   Right.

24 Q.   Did you display the CDR-Replay to them?

25 A.   No.

1   Q.   What was the live crash app?

2   A.   That would have been the use of CrashScan.

3   Q.   Okay. And that demo resulted in a Bosch report, is

4   that right?

5   A.   I don't recall. We may have also used a Bosch tool to

6   image the vehicle at the same time.

7   Q.   You didn't provide any other crash data with this, did

8   you -- sorry, you didn't provide a Collision Sciences'

9   report, right?

10   A.   No.

11   Q.   You only produced the Bosch report?

12   A.   Yeah, I actually don't recall if we provided a

13   Collision Sciences' report, but I think, based on what

14   I'm seeing here, yeah, we only provided the Bosch

15   report.

16   Q.   Again, on the first page of the e-mail there's a

17   deliverable summary, and the third one says we offer

18   two tiers of reports: the pre-claim AI EDR claim

19   alert report (fraud alerts, predictive loss severity,

20   repair cost and injuries) and the engineered Bosch

21   Crash Data Retrieval report.

22   That second one refers to the Bosch report,

23   correct?

24   A.   Correct.

25   Q.   So you were presenting to CommonWell that you would be

1   able to provide a Bosch report with our system, right?

2   A.   Not -- I didn't present that we could provide it with

3   our system specifically, but potentially if they scan

4   with our system, we can go out there and scan with the

5   Bosch tool or if they sent us an airbag module, we can

6   do that in our lab at any time.

7   Q.   So the next bullet item, it reads, preserve all

8   digital data and modules you want for free, correct?

9   A.   Correct.

10 Q.   And then after the parentheses it says, the fee is 275

11   for us to process the data into the Bosch PDF report.

12   (The fee is the same for digital processing or lab

13   processing of the airbag module.)

14   The digital processing you're referring to

15   is the data from a CrashScan and processing that into

16   a Bosch report, correct?

17 A.   That could have been processing into our own report,

18   but I don't --

19 Q.   Well, you say the fee is 270 for us to process the

20   data into the Bosch PDF report. So you're talking

21   about charges for a Bosch report, correct?

22 A.   Correct.

23 Q.   But the scan being digital data via the CrashScan app,

24   right?

25 A.   Correct.

1 Q. You also attached a slide deck, you called it, for the

2   presentation, and it is Exhibit 168, right? Do you

3   have that?

4 A. Yes.

5 Q. In particular, page 32 of it.

6 A. Okay.

7 Q. And this -- I guess in the lower right corner it says

8   slide. It might be 33. It's got a Bates number of

9   4786 in the bottom corner. Is that where you're at?

10 A. Uh-huh.

11 Q. Okay. This slide is called tech overview and it has

12   what we talked about before, item 3, ability to replay

13   the raw crash data into Bosch CDR tool, right?

14 A. Yes.

15 Q. We're talking about using scanned data through --

16   CrashScan app and replaying it to get a Bosch report,

17   right?

18 A. Correct.

19 Q. You say in the paragraph at the bottom, consider that

20   the value proposition of this tech is access to the

21   Bosch PDF report, right?

22 A. Correct.

23 Q. That would otherwise cost TD 1,000 to 3,000 in

24   engineering fees per use, right? You're comparing

25   your service of providing a Bosch report to what it

1   would cost to have them get the Bosch software?

2   A.   No, that's the cost of having an engineer drive out to

3   a car at 200, 300 an hour to use the Bosch tool or a

4   similar EDR tool and then collect the data and write

5   up an engineering report on the data; it's

6   contextualizing the data. I see comparable costs and

7   engineering fees at the bottom.

8   Q.   Okay. Go to Exhibit 140. That's an e-mail from you

9   to Tom Walsh, this time his full name is there,

10   December 7, 2018, and subject is Wawanesa --

11 A.   Yes.

12 Q.   -- follow-up, suggestions. You're writing him to

13   thank him for his critical feedback, right?

14 A.   Correct.

15 Q.   So you had a meeting with Wawanesa, they provided

16   feedback to you, and -- or I should say Tom Walsh

17   provided feedback of your meeting with them to you, is

18   that right?

19 A.   Say that again.

20 Q.   You had a meeting with Wawanesa?

21 A.   Yes.

22 Q.   To talk about your CrashScan application?

23 A.   Yes.

24 Q.   And actually, if you go in the chain, on the next page

25   you wrote to Tom and Chad with a suggested response

1   back to Wawanesa after your meeting?

2   A.   Right.

3   Q.   One of the things you wrote in your proposed response

4   back was under the heading of reverse engineering

5   copyright. Do you see that at the bottom?

6   A.   Yes.

7   Q.   And it goes on to the next page at the top. You

8   wrote, note there is case law to defend the reverse

9   engineering manner in which we developed our

10   diagnostic solution. You wrote that, right?

11   A.   Yes.

12   Q.   So it's fair to say that the issue of reverse

13   engineering was raised in your meetings with Wawanesa?

14   A.   Yes.

15   Q.   And you were trying to come up with defenses to the

16   actions you took in developing the product, is that

17   right?

18   A.   Yes.

19   Q.   You wrote in the second sentence, further, the EULA of

20   the Bosch tool does not prohibit reverse engineering,

21   is that right?

22   A.   Yes.

23   Q.   So at least at that time you were aware of the EULAs

24   that controlled the software, is that right?

25   A.   Yes.

1   Q.   One of the other attachments is the SIU proposal cost

2   benefit analysis. Do you see that? I was looking at

3   the e-mail first, the attachment there. The title of

4   the document was listed.

5   A.   Okay.

6   Q.   Now, I just want to go over this document here. You

7   sent this to a lot of different people, including

8   different insurers.

9   A.   I wouldn't say a lot. I don't recall. A few.

10   Q.   You sent it out and you sent it out in a --

11   A.   I think it was created for one specific client and I

12   may have shared it after with one or two clients. I

13   don't recall how many.

14   Q.   Okay. So it's Bates number 1636 at the bottom, if you

15   want to go to the strategic business proposal.

16   MR. MONSMA: Which exhibit are you on?

17   MR. ZELLER: Still in 140. It's big. The

18   Bates number at the bottom is 1636. 1635 is where it

19   starts.

20   BY MR. ZELLER:

21   Q.   Just the title at 1635, which is what you're talking

22   about when we said EDR cost benefit analysis, has the

23   title of Strategic Business Proposal; yes?

24   A.   Correct.

25   MR. MONSMA: Steve, I'm sorry, I'm not

1   trying to trip things up; you're at Exhibit 140?

2   MR. ZELLER: 140, it's after the Bosch

3   report.

4   MR. MONSMA: Bates are all 52-something.

5   MR. ZELLER: The last four digits are 1636.

6   MR. MONSMA: Got it.

7   BY MR. ZELLER:

8   Q.   If you want to go two pages forward, the title is

9   Extracting Maximum Value From Black Box Data and

10   Solutions, 1.0, right?

11   A.   Yes.

12   Q.   The intro is a cost-benefit analysis of Crash Data

13   Retrieval analysis and important solutions for

14   passenger vehicle event data recorder, is that right?

15   A.   Okay.

16   Q.   On the second -- the next page, at the top you

17   write -- you wrote, the Collision Sciences' solution

18   can facilitate immense savings for an insurer, is that

19   correct?

20   A.   Correct.

21   Q.   And even -- sorry, the next sentence you wrote, even

22   as a direct replacement for the Bosch tool for 50 SIU

23   users, the upfront cost of the Collision Sciences'

24   solution is approximately $460,000 cheaper upfront and

25   estimated to be $500,000 cheaper per year when

1   considering the true human resource costs involved

2   with proper data analysis and reporting. Do you see

3   that?

4 A. Yes.

5 Q. Part of what you're referring to there is the Bosch

6   tool, right; because you say as a direct replacement

7   for the Bosch tool?

8 A. Yes.

9 Q. Okay. And on the next page under the heading

10   Collision Sciences' Hardware Solutions Software

11   Provides Value to SIU or Active Bosch EDU Users. Do

12   you see that?

13 A. Yes.

14 Q. You wrote in the first paragraph there that Collision

15   Sciences' hardware and software solutions could be a

16   replacement for the Bosch tool, but could also be used

17   as a complementary tool, right?

18 A. Yes.

19 Q. Because it can be either, it's certainly -- you were

20   marketing it as that it could be a replacement?

21 A. Right, that's correct. Within context of a very

22   limited set of small crash data, it could test if

23   crash data was stored or not. So in some cases it

24   could be a replacement, but not in all use cases.

25 Q. This is off topic, but it's in the documents, so I'm

1   going to ask you on the next page. The third bullet

2   point item there says the CS tool actually

3   incorporates the main Bosch end changer adapter

4   required for many MS-can Ford vehicles.

5   That refers to the vehicle interface module

6   that Bosch software uses, is that right?

7 A.   It's easier if I just explain.

8 Q.   Go ahead.

9 A.   The Bosch tool plugs into many different vehicles.

10   There's a port called an OBD port; it has 16 pins and

11   the vehicle OEM will decide which of those pins you

12   have to kind of communicate through and change, so

13   there are a range, I think three, they're called DLC

14   adaptors that if you're using the Bosch tool on a

15   vehicle, you have to add this little like adapter in

16   between the Bosch tool and the vehicle so it switches

17   what pins are being communicated on.

18   So what I've explained here is that the

19   third-party hardware that we use from ODB Solutions,

20   they make the ODB Link tool, the Bluetooth tool; it

21   has one of those pin changers kind of built into it

22   for -- which works with some of the Ford vehicles

23   which switch the pins; that's really it.

24 Q.   In this case, in order to be able to incorporate it

25   into the CS tool, you had to figure out what those

1   adapters did?

2 A.   What?

3 Q.   Sorry. To incorporate this, quote, end changer, end

4   quote, into the CS tool, you had to figure out what

5   those adapters did?

6 A.   You're asking if we analyzed hardware --

7 Q.   Yes.

8 A.   -- or just look at how hardware worked?

9 Q.   Yes.

10 A.   Most likely, yeah.

11 Q.   I want to go to the last page of this exhibit. This

12   page has a table, and I guess the third row in the

13   table -- no, second row, convert app collected cloud

14   crash data to, with an arrow, Bosch CDR PDF.

15   That's using the CDR-Replay tool, is that

16   right; that's what that refers to?

17 A.   That's correct.

18 Q.   And in this document you were proposing to charge $475

19   to do that, correct?

20 A.   Yes.

21 Q.   Can you go to Exhibit 169? Exhibit 169 is an e-mail

22   from you to George White with HUB Enterprises and

23   somebody else dated May 31st, 2019. HUB Enterprises

24   is a -- well, I'll ask you: What is HUB Enterprises?

25 A.   They're a third party SIU,

1   special-investigation-unit-type company. Private

2   investigator-type company, but they'll do field work

3   on behalf of insurance companies.

4 Q. In this e-mail, you were responding to having a phone

5   call with them to discuss collaborating with them on

6   your tool, right?

7 A. I don't recall the exact contents of this long e-mail.

8 Q. It does say nice meeting you over the phone to Scott.

9 A. Okay.

10 Q. And HUB Enterprises is now a customer of Collision

11   Sciences, right?

12 A. Yes. I mean, we consider them a partner or reseller,

13   but yes, generally, a customer.

14 Q. Who do they resell it to?

15 A. Their insurance clients. They don't let us know which

16   clients though.

17 Q. In this particular e-mail, the second paragraph

18   indicates that there was somebody from American Family

19   on the call, is that right?

20 A. Yes.

21 Q. On the next page in the first full paragraph, a little

22   bit past the middle, you wrote, as you know -- as you

23   review. Do you see that?

24 A. Sorry, no.

25 Q. It's in the middle.

1   A.   Here, okay.

2   Q.   Do you see it?

3   A.   Yes.

4   Q.   And you wrote in here about comparing the cost of what

5   the kit, your kit, compared to what each kit from

6   Bosch software is, right; plus training human

7   resources, you wrote, right?

8   A.   Correct.

9   Q.   And you suggested providing them with your cost

10   benefit analysis that you had previously shared with

11   American Family, is that right?

12 A.   Where do I say that?

13 Q.   The last sentence. At your request, I can provide you

14   a 15-page cost benefit.

15 A.   Right.

16 Q.   You wrote in the parentheses, as they already had one

17   internal EDR user with a Bosch kit. How did you know

18   that?

19 A.   I don't recall.

20 Q.   The attachments that you sent in this e-mail, if you

21   look at the title of them, the first one is a

22   Collision Sciences' Crash Report, right?

23 A.   Correct.

24 Q.   The full title of the file is (case CS00619) 20190530,

25   claims 2017 Toyota Corolla - generated from Bosch CDR

1   report.pdf. That indicates that you created, or

2   somebody created a Collision Sciences' report from a

3   Bosch report, is that right?

4 A. Yes. Sometimes we're mailed Bosch CDR reports from

5   the insurance industry and they specifically ask us to

6   provide our report so they can understand the Bosch

7   report; that happens from time to time. It could have

8   been what happened in this case. Could have been

9   CDR-Replay.

10 Q. Can you go to 126?

11   MR. ZELLER: Tom, let me know whenever we

12   need to stop.

13   THE ARBITRATOR: Sure. As you're looking

14   at that, let me take a peek to see if now is the right

15   time.

16   (Off the record at 11:57 a.m.)

17   (Back on the record at 11:57 a.m.)

18 BY MR. ZELLER:

19 Q. So on 126 is an e-mail from you to Mike Conlon at The

20   Guarantee and a few other people. The Guarantee is an

21   insurance company?

22 A. Correct.

23 Q. Canadian?

24 A. Correct.

25 Q. Are they a customer of Collision Sciences?

1 A. Currently, no.

2 Q. The subject of the e-mail was CSI Metrics Workflow and

3   Reporting. You were sending this e-mail to them in an

4   effort to curry their business, is that right?

5 A. I don't know. I think we were -- they were trialing,

6   and I don't recall if they were paying for our

7   services at the time for this.

8 Q. So they were considering CrashScan?

9 A. I don't recall the context and timing of this.

10 Q. The e-mail at the top, you wrote, I'm attaching the

11   RAV-4 reports. I've included the Bosch CDR report

12   because it's interesting and we haven't yet decoded in

13   our claims report to account for 46 collisions. You

14   wrote that, right?

15 A. Correct.

16 Q. In the first e-mail below in the chain, it looks like

17   Mike Conlon wrote to you and asked if you could pull

18   the complete report and send it to us, right?

19 A. Correct.

20 Q. And you understood that to mean the Bosch report

21   complete report, is that right; I mean the Bosch

22   report?

23 A. Yeah, I don't know how I would interpret that or I

24   don't know what Mike Conlon would also interpret what

25   the complete report would be.

1 Q. Well, actually in the chain on the next page when you

2   wrote to him -- it's actually Mark Weir at LCM

3   Solutions. Who is that?

4 A. They were a consulting company trying to help us with

5   sales through network contacting.

6 Q. Okay. So you CC'd Mike Conlon at The Guarantee?

7 A. Correct.

8 Q. You wrote in that e-mail on August 22nd in the second

9   paragraph, I want to point out another file with

10   interesting data that Toyota RAV-4 scan had unusual

11   data. Do you see that?

12 A. Yes.

13 Q. And you gave a link of what you called a preview

14   report, is that right?

15 A. Correct.

16 Q. Then if we go back, he asked, can you pull the

17   complete report and send it to us? And your response

18   to that was to send the Bosch CDR report. And you say

19   because our claims report, meaning the Collision

20   Sciences' report, hadn't yet been decoded, correct?

21 A. Correct.

22 Q. So in the course of trying to get business from The

23   Guarantee, you used and sent a Bosch report, is that

24   right?

25 A. Yes.

1 Q. Can you look at 151? Exhibit 151 is an e-mail from

2   you to Mike Conlon at The Guarantee, September 20th,

3   2019.

4 A. Yes.

5 Q. Do you see that?

6 A. Yes.

7 Q. And you wrote -- actually, if you look at the e-mail

8   that you forwarded at the bottom of the page on

9   September 20th, 2019, that's one of the automatic

10   e-mails from CrashScan when somebody scans a vehicle,

11   is that right?

12 A. I think this would be a server-generated e-mail in the

13   chain of those e-mails, but this would be from that

14   e-mail they got after a scan, if they clicked on it,

15   the server would send another e-mail saying thank you

16   for your purchase.

17 Q. Okay. And this is a download link, correct?

18 A. Yes.

19 Q. That scan was for this 2017 Audi RS7? The next page

20   it shows what the vehicle was.

21 A. Correct.

22 Q. So you wrote, saw that you just downloaded this Audi.

23   And you wrote, we immediately did a replay of the

24   Bosch CDR as the Delta-v is very high, and I can

25   confirm that this value matches the Bosch CDR report,

1   which I have attached.

2   You offered to explain how you do it, but

3   then you essentially send the Bosch tool with the

4   exact hex data from the EDR. That's what you wrote,

5   right?

6 A. Correct.

7 Q. So the attachments are of the Bosch report and the

8   Collision Sciences' report follow, if you want to

9   look.

10 A. Yes.

11 Q. I only attached one page of the Bosch report, but the

12   Collision Sciences' report follows after that.

13 A. Okay.

14 Q. So you attach both of those reports to this e-mail,

15   right?

16 A. Right.

17 Q. And you did that to confirm that your report was

18   accurately reporting the high Delta-v, is that right?

19 A. Yeah, I did that to show that both solutions -- both

20   reports report the same value.

21 Q. In the context though, you're trying to sell Collision

22   Sciences' services and their reports, right?

23 A. Correct.

24 Q. So is it fair to say that you're using Bosch's report

25   to verify the accuracy of Collision Sciences' report?

1   A.   Not specifically. I think as Brian testified, we use

2   it as a second opinion. An expert in the field can

3   look at hex data, translate it to numerical data, and

4   it's a very quick way to use the Bosch tool to get

5   that second opinion.

6   Q.   The Bosch tool has been in existence since 2000 or so;

7   yes?

8   A.   Yes.

9   Q.   It's been challenged in court numerous times, is that

10   right?

11   A.   Yes.

12   Q.   Would you agree that the Bosch tool has a fairly high

13   degree of respectability within the industry?

14   A.   Yes.

15   Q.   So --

16   A.   With caveats, like the law.

17   Q.   For its accuracy and what it offers?

18   A.   I would say that users get what they get; they can't

19   get upset.

20   Q.   In trying to sell your services, if your software

21   could produce a report that is consistent with a Bosch

22   report, that gives you credibility, is that right?

23   A.   I think it gives the data stored on the module

24   credibility.

25   MR. ZELLER: I'll do one more, all right?

1   THE ARBITRATOR: Sure.

2   BY MR. ZELLER:

3   Q.   Do you remember an interview you gave for a journal

4   called Claims Journal in about 2021?

5   A.   Yes.

6   Q.   We actually have a copy, it's Exhibit 176. What is

7   Claims Journal?

8   A.   It appears to be an insurance magazine. I don't read

9   it. I didn't reach out to them.

10   Q.   How did it come about that you were interviewed for

11   it?

12   A.   I was randomly contacted by a journalist. I initially

13   didn't want to do the interview, and they had a lot of

14   probing questions that I tried to help them with.

15   Q.   Okay. The article states, underneath the picture, the

16   first paragraph, Chief Executive Officer Jason Bayley

17   says his device eliminates the need to invest in the

18   Bosch and GIT tools which together can cost claims

19   jobs $50,000.

20   Does that accurately reflect what you would

21   have said to this reporter?

22   A.   No, I didn't say that.

23   Q.   You would not say that your device eliminates the need

24   to invest in Bosch tools?

25   A.   No.

1   Q.   Did he actually -- I assume it was a he?

2   A.   I think it was.

3   Q.   Did he accurately describe what you said about whether

4   the patented reporting system that you have eliminates

5   the need for training programs to understand the codes

6   that the Bosch and GIT tools produce?

7   MR. MONSMA: I'm going to object to this as

8   hearsay to the extent it's not directly from Jason.

9   THE ARBITRATOR: I think he's asking

10   whether or not the quote of the information is

11   accurate from his perspective, and to that extent he

12   can answer.

13 BY MR. ZELLER:

14 Q.   Let's read the sentence. He said his patented

15   plain-language reporting system also eliminates the

16   need for claims investigators to enroll in a week-long

17   training program to understand the digital codes that

18   the Bosch and GIT tools produce. Do you see that?

19 A.   I'm sorry? I'm trying to find where you're reading.

20 Q.   It's in this paragraph. Go ahead and read it.

21 A.   Okay. What's your question?

22 Q.   Did he accurately write what your views were about

23   that topic?

24 A.   Well, first, it isn't the plain-language reporting

25   system that's patented, but other than that,

1   eliminating the need for claims investigators to

2   enroll in a week-long training program, I think that

3   generally reflects what we're trying to do, because

4   our report is a contextual report, kind of like an

5   expert report; you take the raw data, you have an

6   expert or someone look at it, we're using all the

7   training resources and information in the industry to

8   create a report. I don't think it eliminates the need

9   for anyone to do any deep training; that's not a

10   reflection of something I would have said.

11 Q. I think we've seen one of your cost comparisons

12   previously when you compare your tool to the Bosch

13   tool is that the Bosch tool requires a lot of training

14   and costs for that, is that right?

15 A. I don't know if they specifically require it. I don't

16   know if that's mandated in the EULA or whatnot, but

17   it's an industry practice or marketed as such, as

18   needing training.

19 Q. I'm not asking if they require it; I'm asking how you

20   presented it in your marketing material that your tool

21   helps eliminate the time and effort needed to have a

22   trained person review the data.

23 A. I don't know if eliminate is the correct word.

24 Q. Okay. On the next page, fifth paragraph, he wrote,

25   Bayley said he sees no reasons why courts would not

1   accept his reports since they are based on the same

2   data accessed by the Bosch and GIT tools.

3   First, the reference, GIT is the

4   Hyundai/Kia tool, right?

5   A.   Yes.

6   Q.   Do you agree with the way that that sentence is

7   phrased?

8   A.   It doesn't really describe anything, in my opinion.

9   Data is not defined in the sentence, the same data

10   accessed. It just says that we access -- same data,

11   it talks nothing about interpretation of the data,

12   so...

13   Q.   Do you believe Collision Sciences' reports will be

14   accepted by courts?

15   A.   Yes.

16   Q.   Have they been accepted by any court yet?

17   A.   Yes.

18   Q.   Where; where have they been accepted?

19   A.   I believe various locations. I don't have a specific

20   list, but I hear -- I get e-mails from contacts when

21   they say they're used. So I know internationally, no

22   court in the U.S. specifically, they're more used in

23   litigation, but international courts they've been

24   used, but I can't say specifically where right now.

25   Q.   The very last paragraph is a quote and it reads, our

1   product and service is fairly disruptive and, thus, I

2   anticipate it will be polarizing, particularly for

3   expert engineers who also enjoy somewhat of a monopoly

4   on access in reporting on EDR data which costs

5   insurers thousands per vehicle typically, end quote.

6   Is that an accurate quote from you?

7 A. Yes.

8 Q. What do you mean by it's fairly disruptive?

9 A. You know, these actually were not words that I

10   specifically said on the phone; they were given to me

11   and I did approve the article.

12   MR. ZELLER: Tom, is it a good spot?

13   THE ARBITRATOR: Yes. I think we should be

14   good to go. Come back at 1.

15   MR. MONSMA: Sure.

16   (Off the record at 12:17 p.m.)

17   (Back on the record at 1:02 p.m.)

18   THE ARBITRATOR: All right. Steve, when

19   you're ready.

20 BY MR. ZELLER:

21 Q. Mr. Bayley, can you turn to Exhibit 179? Exhibit 179

22   is an e-mail from you to Philip Mammen from Farmers

23   Insurance, is that right?

24 A. Yes.

25 Q. Subject: The Demo Meeting. In the first paragraph

1   you state just following up on your request for a

2   phone discussion for more information about our

3   solution, is that right?

4 A.   Yes.

5 Q.   You provided some attachments, and in the middle

6   there's bullet points of the service value slide deck,

7   the cost benefit document, and a sample management

8   report. Do you see that?

9 A.   Yes.

10 Q.   The cost benefit document, that's the same document

11   that we looked at just a little bit ago, correct?

12 A.   Right.

13 Q.   After that, after those three bullet points, you

14   wrote, below is a brief company and solution overview,

15   and I've concluded some details about how our EDR

16   solution is differentiated. Do you see that?

17 A.   Yes.

18 Q.   And after the number of bullet points at the bottom,

19   you wrote, we are capable of generating the OEM

20   interpretation version of the report in our lab, i.e.,

21   Bosch CDR report. You see that, right?

22 A.   Yes.

23 Q.   You're referring to using CrashScan data to generate

24   the Bosch reports, right?

25 A.   I don't specifically say that. It also can be if they

1   ship us airbag modules, we can use our Bosch software

2   in the system to generate a PDF report.

3   Q. You don't actually talk about having airbag modules

4   shipped anywhere, and I'll give you the time to look

5   at if you want, is that right?

6   A. Maybe not be in this e-mail, but it's a general

7   solution for a crash data management program.

8   Q. I guess I'm going on what you were representing to

9   Farmers Insurance in this e-mail.

10 A. Right, I think I mentioned that on the phone call.

11 Q. You were reaching out to Farmers obviously to solicit

12   their business, right?

13 A. Yes. They may have reached out to us, but I don't

14   recall.

15 Q. That's why you were engaging with them anyway; to

16   solicit their business?

17 A. Yes.

18 Q. Can we look at Exhibit 154? Exhibit 154 is an e-mail

19   from you dated May 26th, 2020 to a David Cami?

20 A. Yes.

21 Q. And as I recall, David Cami is based in Spain and is a

22   crash investigator, is that right?

23 A. Yes.

24 Q. And you were writing to David Cami for a potential

25   collaboration, is that right?

1   A.   Yes.

2   Q.   One of the things that you were mentioning to him is

3   under the bullet point or the title More Details on

4   the Summary Report Data Service. Do you see that?

5   A.   Yes.

6   Q.   You describe a trial service for insurers of three

7   months and they would get a summary report, is that

8   right?

9   A.   Yes.

10 Q.   Further down in the paragraph, you wrote, you should

11   understand that there is a manual quality check on

12   report data presentation and we replay the crash data

13   through the OEM tools to review a Bosch CDR report or

14   similar report for every collision. Do you see that?

15 A.   Yes.

16 Q.   That obviously refers to the CDR-Replay when you wrote

17   replay, right?

18 A.   Yes. I'm not saying that we do a replay for every

19   collision, but we do do a manual quality check, and

20   then -- I mean, there's two things built into that

21   sentence, just to clarify.

22 Q.   Well, I mean, I'm just asking what you wrote. That's

23   what you wrote, is that we replay the crash data for

24   every collision?

25 A.   That's not what this sentence said.

1   Q.   Okay. You mentioned in trying -- in qualifying that

2   statement, that you do a manual check, is that right?

3   A.   Yeah, we do a manual quality check on the contextual

4   data.

5   Q.   Can we go to 177?

6   A.   Okay.

7   Q.   Exhibit 177 is an e-mail from you to Kurt Ottinger

8   from American Family Insurance dated October 14, 2019.

9   Do you see that?

10   A.   Yes.

11   Q.   I want to go to the next page to the start of the

12   e-mail chain, and it appears that Mr. Ottinger is

13   writing to you requesting that somebody needs to know

14   if your reports have been admitted in court and also

15   if you or anyone have testified as an expert witness.

16   At the top of that page you wrote back that

17   you've been an expert on CDR, and you write in the

18   second paragraph, our reports have been accepted as

19   evidence globally, withstanding comparable testing to

20   the Bosch tool and telematic data as well.

21   I think I asked you previously about

22   litigation and Collision Sciences' reports and you

23   said you recall something in a foreign counsel but not

24   the U.S.

25   A.   Yeah, I said it's been admitted in courts

1   specifically. I'm saying here accepted as evidence.

2 Q. What's the difference of accepted as evidence as

3   opposed to being admitted in court?

4 A. That's a good question. I suppose in this context I

5   was actually suggesting used in litigation.

6 Q. Now, I know you were a testifying expert in court

7   cases in Canada and, unfortunately, I don't know

8   exactly if it's the same procedure as in the U.S., but

9   did you have to be qualified as an expert in that

10   case?

11 A. Yes.

12 Q. So it's somewhat rigorous to be admitted as an expert,

13   is that a fair statement?

14 A. Rigorous is -- it's rigorous to become an expert, but

15   they only ask you a short series of questions to get

16   qualified.

17 Q. Okay. But you have to have --

18 A. Qualifications.

19 Q. Qualifications, right?

20 A. Yes.

21 Q. In October of 2019, how many Collision Sciences'

22   reports do you think had been sold or supplied, I

23   guess?

24 A. I actually could not estimate.

25 Q. It was still pretty early in your sales, right?

1 A.   Yes.

2 Q.   So there hadn't been -- certainly not as many as are

3   out that you supplied them now?

4 A.   Correct.

5 Q.   Do you track cases or litigation when a Collision

6   Sciences' report is used?

7 A.   No, I haven't been doing that.

8 Q.   Have you submitted a report based on a Collision

9   Sciences' report -- have you submitted any kind of an

10   expert report on a Collision Sciences' report in any

11   jurisdiction?

12 A. I haven't -- no, I've given testimony, but I've never

13   submitted any additional report on top of a contextual

14   Collision Sciences' report that we're --

15   COURT REPORTER: I'm sorry, what was the

16   last thing you said?

17   THE WITNESS: That we're seeing -- that

18   we're referencing like our sample reports; I've

19   provided verbal or e-mail consultation on those

20   reports to clarify testimony or affidavit.

21 BY MR. ZELLER:

22 Q.   Have you been designated as an expert witness based on

23   Collision Sciences' report?

24 A.   Yes.

25 Q.   Where is that?

1   A.   Too many to name actually; a lot of cases.

2   Q.   Any examples that you can --

3   A.   Private arbitration in the insurance claims in the

4   U.S., primarily.

5   Q.   As you sit here though, you can't give me any specific

6   example of a Collision Sciences' report accepted in

7   evidence as of October 14, 2019; do you have any

8   specific examples that you could give me of a

9   Collision Sciences' report being accepted into

10   evidence?

11   A.   No.

12   Q.   And as of -- since that time, up until today, can you

13   give me any specific examples of a Collision Sciences'

14   report being used as evidence?

15   A.   I can, yes.

16   Q.   Do you want to give that example?

17   A.   I don't really want to start listing examples, but I

18   would list -- it would be simply naming some insurance

19   companies where we provided our report and

20   consultation, and I've been listed an as expert and

21   given testimony and there's a handful of insurance

22   companies' names, or sometimes just a law firm's name,

23   so it's really just a series of e-mails I have, so

24   it's hard to recollect exactly.

25   Internationally, we've worked with some

1   police, and it wasn't myself that was the expert, it

2   was actually Brian. So the UK, in a criminal court,

3   the police have used our reports. Usually when Bosch

4   tool doesn't work on a vehicle, like a certain make or

5   model like Ford, Mazda, we provide our services

6   because there's no other tool that can provide the

7   data that we provided to the global market.

8   Specific examples, other countries we work

9   in, we usually have experts that would testify on our

10   behalf. Quite often, I'm asked to represent as an

11   expert, but I never have to testify because cases more

12   often settle than not. So there's so many examples

13   that I've been asked to provide my CV and expert fee

14   schedule, but it doesn't result in actual testimony.

15 Q. I guess I'm trying to verify the statement that you

16   said it's been reviewed, and I'm going to ask you

17   again if you'll give any examples that you could -- or

18   where the Collision Sciences' report has been admitted

19   into evidence.

20 A. Yeah, at this time I couldn't specifically name one

21   insurance company or whatever.

22 Q. Okay. I think we talked before a little about

23   CrashScan in the reports that it generates, and in

24   particular that it has much more information besides

25   crash data, correct?

1   A.   Yes.

2   Q.   The CrashScan report would still have value if it

3   didn't have crash data contained in it, correct?

4   A.   Yes.

5   MR. ZELLER: I have no further questions.

6   THE ARBITRATOR: All right.

7   EXAMINATION

8   BY MR. MONSMA:

9   Q.   Jason, let me start where you kind of left off there.

10   There were a lot of questions about whether the Bosch

11   -- I'm sorry, whether the CSI reports have ever been

12   used or accepted in court. You remember those

13   questions?

14   A.   Yes.

15   Q.   I think I heard you testify that you don't track

16   specifically when that happens, is that right?

17   A.   Correct.

18   Q.   Might that be why you might have trouble pinning down

19   a concrete example?

20   A.   Yes. I was just thinking about it and just last month

21   I testified for Amica Insurance. I know this week I

22   had to send a CV for Liberty Mutual. I could name

23   every client, but I don't know how helpful that would

24   be.

25   Q.   I understand.

1 A.   I wouldn't want to say something incorrect either.

2 Q.   I understand. I just wanted to clear that up.

3   CSI was founded in 2015, is that right?

4 A.   Yes.

5 Q.   Explain the motivation for creating the company.

6 A.   So motivation for starting the company, having

7   experience in the accident reconstruction field, I

8   wanted to, you know, create greater access to very

9   crucial data. There are millions and millions of car

10   accidents every single year and each accident produces

11   -- each vehicle will store crucial evidence on the

12   vehicle, and it's very difficult data to get to

13   logistically, very expensive; insurance companies

14   weren't using it very often, so just the world and

15   industry needed better access to this information, so

16   I wanted to provide tools in reporting that could pave

17   access for literally anyone globally. If you're in a

18   car accident and you need evidence, that you can get

19   to that evidence affordably.

20   Somewhat altruistic, I've even given our

21   reports away for free to people who just can't afford

22   it. So really, the purpose was to provide access to

23   crash data, and then also provide assistance in

24   understanding that data better.

25 Q.   And in your understanding, was that -- it sounds like

1   maybe there was maybe a gap in the market that you

2   saw, a need?

3   A. Yes.

4   Q. Was that a need, in your understanding, that was being

5   addressed by other companies?

6   A. No.

7   Q. Explain, if you would, some of the services that CSI

8   provides. Well, before you do that, I'm sorry, I

9   didn't mean to cut you off. I just want to confirm:

10   Has the business model for CSI evolved over time?

11 A. Yes.

12 Q. So what is it that you currently do?

13 A. Currently, we offer software, CrashScan as we've

14   talked about, which is a software that allows anyone

15   to use a mobile app as a very cost-effective tool to

16   just basically image -- or download data off of a car;

17   that's one service. So what that means is very

18   cost-effectively at scale you can collect crash data.

19   So that's a service.

20   We have the capability to collect crash

21   data for every single car accident in the world,

22   putting our tools into body shops, where otherwise

23   without this cost-effective tool it just wouldn't be

24   possible because it would cost-prohibitive. As a

25   service, we provide that opportunity.

1   And on the back end, we provide a way to

2   understand what that data is, because it is pretty

3   complicated. So we interpret the data and we can

4   contextualize the data, and then we provide consulting

5   in the data via support.

6   So to get through that pathway, we also

7   provide a lot of technical support for users in the

8   field, for layman and claims adjusters who are

9   receiving our reports and just trying to understand

10   some basic information about the vehicles and what

11   happened. So end-to-end, we can get the data and we

12   can provide testimony at the worst outcome, if it gets

13   to that point.

14   Q. Does CSI then do more than just regurgitate EDR data?

15   A. Yes.

16   Q. Explain.

17   A. And then also our -- so while vehicle crash data

18   evidence is crucial, the world is also facing a huge

19   problem with insurance fraud. They say it accounts

20   for 10 percent of our insurance premiums. So one of

21   our main focuses is to help reduce that insurance

22   fraud, and without us, that would not be possible.

23   So some of the services we help provide are

24   automated services. Where if an insurance company is

25   scanning a lot of vehicles, let's say in their salvage

1   yard, we can automate processes to flag fraud, or

2   certain liability cases like if there's excessive

3   speeding, but our report and generation aggregate a

4   lot of data. We don't just scan the EDR on a vehicle;

5   we scan all the computer modules, get all the

6   diagnostic information that we can. We try and

7   aggregate information about vehicle specifications and

8   vehicle safety information. We put recall information

9   on our reports, all sorts of vehicle safety testing;

10   any information that we can think that would be

11   helpful into a report about a vehicle. Then once we

12   have some of that information, we contextualize it, we

13   organize and structure the data so it's really easy to

14   understand. We do some calculations and we provide a

15   little bit of reconstruction to help the user

16   understand further context about how hard someone was

17   braking. For example, instead of just putting

18   straight numbers, we'll say that was more light

19   braking or emergency braking.

20   Then with how severe the collision was, we

21   add context for the users to understand in plain

22   English, not just 1G or 5Gs. What does that actually

23   mean? We add context and provide references and

24   scientific references for what that means, as well as

25   scientific injury risk studies.

1   So as it applies to a huge fraud problem,

2   especially in the states where there are very, very

3   low-velocity impacts and people claim injuries, 50,000

4   per person per car -- or per person in a car, a

5          $500,000 insurance problem, but our report can

6   quantify the severity, or at least for at the basis,

7   quantify the severity of like how severe the collision

8   was and whether the insurance company can decide

9   whether it's likely or not someone is faking injury,

10   or that kind of thing. So we have a whole section for

11   injury risk and biomechanical analysis. We have all

12   sorts of services and data that we try to put into our

13   tool.

14   Q.   Is there a lot of information in your reports that is

15   not in a Bosch CDR report?

16   A.   Yes.

17   Q.   Okay. Explain that.

18   A.   Right. So at the top of the report, we have summary

19   section. We try and highlight just the basics of what

20   happened in a particular collision, if anything

21   happened at all, and then our report reads much like a

22   tutorial where any layperson can read and understand.

23   If you -- in any given situation, if you

24   scanned a vehicle and it does or doesn't have crash

25   data, what does that actually mean? So then the user

1   can read through the report carefully and really pull

2   apart the evidence, and it allows them to understand.

3   So if there's no crash data, they can read

4   on and they can read on to different sections. So I

5   mentioned a lot of the sections already: vehicle

6   specifications, safety research, recalls, diagnostic

7   data, and then there are injury risk sections whether

8   or not there's crash data stored or not.

9 Q. CSI's business model is based on selling per report,

10   right, selling the reports?

11 A. Yes, we sell per report. However, that's the only way

12   we charge a client and we include all consulting

13   within that fee, and we get a lot of phone calls, we

14   get e-mails, and we'll respond to those e-mails; we

15   include technical support, so it's really a holistic

16   pricing model, but we do a lot of consulting within

17   that pricing model.

18 Q. Do you charge customers for any hardware?

19 A. Yes.

20 Q. Explain that.

21 A. We do have a third-party company that builds hardware,

22   the Bluetooth adapter, and we have a little kit with

23   an extension cable; we charge $200 for that. That

24   will include shipping; we'll get it to anyone in two

25   days.

1   Q.   But the primary charge is for the report itself?

2   A.   Yes.

3   Q.   Is CSI working with OEMs to get EDR specifications?

4   A.   Yes.

5   Q.   So you're working with OEMs currently to do that?

6   A.   Yes.

7   Q.   Tell me just generally, but my understanding is

8   there's a pretty significant price difference between

9   the Bosch kits and what you charge for the reports.

10   Can you -- you don't have to give me an exact dollar

11   amount, but just roughly, what are you talking about

12   here?

13 A.   Right. If you're someone who is looking to get into

14   the market and want to buy Bosch system, it could be

15       $7,500 for some hardware that will allow to you scan

16   the vehicle, and then you might be into 30 or 40,000

17   for their lab kit, even if it's available. I think

18   it's not available on the website; it's out of stock

19   right now. But if you -- that's a big amount of money

20   to spend in contrast with ours being $200, and that

21   allows you to retrieve the data.

22 Q.   In your view, are the Bosch CDR tool and CrashScan

23   competitive?

24 A.   No.

25 Q.   Why not?

1   A.   Our tool does not collect all the same data from the

2   vehicle. As an example, Bosch mentioned a number of

3   things in their presentation the other day, like the

4   Ford PCM data, we don't get that. The GM --

5   Q.   Slow down for the court reporter.

6   A.   Sorry. The GM ADAS data, we're not collecting and

7   reporting on that. They had another bullet point like

8   roll-over data and some other data that we're not

9   getting. So just from that standpoint, there's a lot

10   of data.

11   In our reports, we have a very concise

12   reporting of a limited set of data. As an example,

13   they presented, you know, there's the legislated data,

14   and if recorded -- what they must record, and also the

15   other OEM data. So we only provide like a limited set

16   of the -- consistent with the legislated data.

17   There's a lot of extra OEM data that we don't provide.

18   So our tool wouldn't be a substitute for a number of

19   things. It wouldn't be used by the OEMs; it wouldn't

20   be used -- like we talked yesterday about the NHTSA

21   regulation and TSA regulation that requires a tool be

22   in market. Our tool isn't designed to be the official

23   regulatory tool, so it's not a substitute for that.

24   Generally, our tool is not a substitute for

25   a lot of accident reconstruction experts or police who

1   require that tool, and require a tool to -- if you

2   have -- if you use like our CrashScan system and scan

3   a number of vehicles and identify there's a crash, an

4   accident investigator -- if the claim proceeds to

5   court, the accident investigator when hired can go out

6   with the Bosch tool and image and scan the same

7   vehicle using the Bosch tool; ours is just like a

8   prealert. So you can still get the evidence with the

9   Bosch tool.

10   If you need like the airbag module -- if a

11   car is extremely damaged and you need to take out the

12   airbag module to download directly, Bosch sells the

13   $40,000 kit with all the cables, so you'll need that

14   to plug into the module to image the data directly.

15   I mean, these are off the top of my head,

16   but I don't believe that our tool is a direct

17   competitor, because we don't do -- have the same

18   capability, we don't offer the same data points, our

19   reports are so concise and the Bosch report can be

20   like 100 pages long in some cases.

21 Q. Are there situations in the industry, in your

22   experience, where it might make more sense to have the

23   Bosch tool than the CSI tool?

24 A. Yes.

25 Q. And is the opposite true?

1   A.   I believe the opposite is also true.

2   Q.   Are there situations where having -- or using the

3   Bosch tool might be overkill?

4   A.   Yes.

5   Q.   Are there situations where a customer, if your tool

6   wasn't available, they just wouldn't buy anything?

7   A.   Yes. We've heard that a lot in the industry.

8   Q.   Do the CSI tool, CrashScan, and the Bosch tool have a

9   different purpose, in your view?

10 A.   Yes.

11 Q.   Explain that.

12 A.   So I think for a user who doesn't do crash

13   reconstruction a lot, they may just want a tool that's

14   you know -- from a purpose perspective -- let me start

15   here instead.

16   I've described our tool is like getting a

17   more limited set of data and can act as a preliminary

18   look at the vehicle. So having an opportunity to get

19   to a vehicle before -- like once it's salvaged and

20   before it's sold and gone somewhere else, it's a great

21   use case to just at least preserve the data. I think

22   one of the best use cases of our tool is preserving

23   data, at least the raw data from the modules.

24   Without our tool, it probably wouldn't be

25   possible. But from the purpose of a user's

1   perspective, I think that there's several types of

2   users in the industry. So Bosch's main users are law

3   enforcement and accident reconstructionists, but our

4   main users are from an insurance focus, and a lot of

5   them just need to get a very quick look at a few data

6   points to understand whether -- how to manage a claim

7   and maybe triage it and whether to take it further,

8   and quite often, they will refer it to an accident

9   reconstructionist, and then that person will go out

10   and use the Bosch tool. So it really -- I think in

11   some ways it's help -- our tool is helping the

12   industry, because without it, certain accident

13   reconstructionists wouldn't even get referred certain

14   work. So we're like increasing the work available for

15   crash reconstruction in the industry.

16   Q.   Do you remember seeing the e-mails about when you

17   approached Bosch for the Invent with Bosch program?

18   A.   Yes.

19   Q.   I won't pull them out, but you remember talking about

20   that generally?

21   A.   Yes.

22   Q.   What were you hoping to accomplish when you approached

23   Bosch?

24   A.   I was hoping for a collaboration to work together.

25   They had established OEM relationships and I had

1   helped the technology, and I still believe there's

2   potential for collaboration, although we have almost

3   completed the OEM piece, but I still think if Bosch

4   was interested in collaborating, we could sell their

5   report; set up a pay-per-use fee. We have a different

6   business model completely, and I think it's something

7   that might be of interest to the market.

8 Q. When you approached Bosch about potential

9   collaboration, was it your thought that there was an

10   opportunity in the market that Bosch wasn't

11   exploiting?

12 A. Yes.

13 Q. In other words, were there other potential streams of

14   revenue that Bosch could have gotten access to by

15   partnering with you?

16 A. Yes.

17 Q. Explain that.

18 A. I think there's a specific user type that Bosch was

19   not able to sell to because of a high entry fee. I

20   also think their tool and the reporting, being very

21   complicated, it's very challenging to sell to an

22   insurance company because they just don't understand

23   the reports. So even if they did buy it and they have

24   these reports, they hardly know what to do with it

25   anyway. So they would still generate a huge expense

1   sending those reports to an engineer to interpret it

2   or have to train internally and have specialized

3   people, and some do have specialized people who are

4   trained, and write lots of reports, but it's

5   complicated logistically, and we're trying to solve

6   that problem.

7 Q. In your view, when you were approaching Bosch, did you

8   see the opportunity as a win-win?

9 A. Yes.

10 Q. Why is that?

11 A. I do view the solution as complementary. I do believe

12   that's win-win because Bosch would gain access to a

13   different client segment and Collision Sciences could

14   leverage the technology developed to gain revenue. It

15   really just provides an additional way to retrieve and

16   interpret data for the industry.

17 Q. Does CSI have a policy requiring the use of the Bosch

18   tool on every CrashScan?

19 A. No.

20 Q. Let me ask you a final question: You were sitting

21   here through Mr. HelfinSiegel's testimony, right?

22 A. Yes.

23 Q. And we saw some e-mails earlier today where you used

24   the term reverse engineering.

25 A. Yes.

1   Q.   Do you remember those?

2   A.   Yes.

3   Q.   Would you agree with his testimony that there were

4   lots of different interpretations of that term?

5   A.   Yes.

6   MR. MONSMA: I don't have any other

7   questions.

8   THE ARBITRATOR: Okay.

9   MR. ZELLER: Can we take ten?

10   THE ARBITRATOR: Yes.

11   MR. ZELLER: We're going to finish up

12   today.

13   THE ARBITRATOR: Very good.

14   (Off the record at 1:42 p.m.)

15   (Back on the record at 2:01 p.m.)

16   THE ARBITRATOR: All right. Steve, go

17   ahead.

18   RE-EXAMINATION

19 BY MR. ZELLER:

20 Q.   Mr. Bayley, just a bit ago you testified that

21   Collision Sciences is capable of collecting data for

22   every crash in the world, is that right?

23 A.   You can't collect data from every crash. Sorry.

24 Q.   I believe that's what you said.

25 A.   Not all vehicles are supportive for recording EDR

1   data.

2   Q.   But I just want to make sure, I'm pretty sure that

3   your testimony was that you can collect every single

4   crash in the world is what you said; is that not

5   accurate?

6   A.   We have the capability to collect crash data for every

7   crash within certain parameters that are reasonable:

8   if a car is supported, if you can get to the vehicles,

9   if the people have the hardware; there's a list -- but

10   in theory, yes, I mean, that's true; we have the

11   capability to collect all the crash data.

12 Q.   When Mr. Hsu was testifying, he was shown an e-mail

13   that was an alert e-mail and I believe it said it was

14   for a BMW, and it said that there was an unknown

15   software version. Do you recall that being shown?

16 A.   Vaguely.

17 Q.   And I believe Mr. Hsu said that that meant it was a

18   vehicle that Collision Sciences had not seen before.

19   Do you recall that?

20 A.   Yes.

21 Q.   So in that case, it might be collecting data, but you

22   don't know if it's correct, right?

23 A.   Well, we have all the specs from BMW right now, so we

24   would -- if we get a scan -- there's a few segments to

25   this. So we would retrieve an image data off of any

1   car/module. Once we have the data and we want to

2   interpret it, we would go to the OEM specs, we'd look

3   at our code, we'd use our expertise, and potentially

4   as a backup, run the data through the Bosch CDR tool,

5   and you get a lot of different ways --

6   Q.   Sorry, just to be clear, the e-mail that was shown was

7   from 2020, I believe, and I'm talking about that --

8   the ability at that point in time there was an unknown

9   vehicle that was scanned by the CrashScan. So what

10   I'm saying is that it's not necessarily true that you

11   could get crash data for every single car in the world

12   even given the parameters that you said?

13   A.   I don't know the context of what Brian wrote in his

14   software for that, but...

15   Q.   Okay. You mentioned OEMs. Go ahead.

16   A.   To clarify, I believe -- or I should consider what I'm

17   saying as we have the potential to get -- collect

18   crash date from every crash in the world using our --

19   leveraging our technology.

20   Q.   You just mentioned OEM data and specifically BMW.

21   What OEMs do you have their EDR specs for?

22   A.   We have specs from Toyota, BMW; we have specs from

23   Ford and Volkswagon Group, which is Audi, Bentley,

24   Lamborghini. We signed NDAs and are anticipating data

25   from many companies like Hyundai, Kia, Polestar,

1   Volvo, yeah, full list. We're in direct communication

2   with many others and anticipating the specs very soon

3   from Stellantis and Mercedes. And Honda, Mazda,

4   Nissan we have direct contact between those -- pretty

5   much all of the OEMs we have direct contact with them

6   and via (inaudible) approval authorities, so we're

7   anticipating to have all of the specs within months.

8   Q. What do the specs entail?

9   A. Brian could actually answer that question better.

10   Essentially, it's just a listing of the -- it could be

11   as simple as an Excel spreadsheet where you have a

12   listing of information that tells you how to

13   communicate with a vehicle module and then a listing

14   of the data -- the parameters, like the names of the

15   data, and then some way to translate that data,

16   because it will come in almost like bits and bites,

17   what we call hex data, and then how you translate

18   that. It's just a specification on how to retrieve

19   and interpret the data, and it could be a couple

20   documents or Excel spreadsheets.

21   Q. You mentioned NDAs. Do you have license agreements?

22   A. No. Not required.

23   Q. Do you have -- why do you say it's not required?

24   A. They didn't ask. Because of all the forthcoming

25   regulations throughout the world. Like EDR is going

1   to be like emissions, like a public specification in

2   Europe. China's already done it. So the OEMs are

3   viewing it now as they have to give us the

4   specifications. And they do consider it confidential

5   information, so we've signed NDAs and they're

6   providing us the specs under no licensing terms.

7   Q.   So are you involved in verification with the OEMs?

8   A.   Only BMW asked us to send a sample report. None of

9   the other OEMs have even discussed any verification of

10   go test this vehicle, send this report, but BMW just

11   wanted to see what our layout looked like, but they

12   didn't give us any feedback.

13 Q.   Have you implemented any of these vehicles?

14 A.   Yes.

15 Q.   So I think before you said Toyota. What model years

16   of Toyota is it -- are you able to implement because

17   of the specifications?

18 A.   We have all the specs globally. You have to ask

19   Brian, but we basically didn't make any major changes

20   when we got the specs; we already had programmed

21   everything.

22 Q.   I'm sorry, what do you mean you didn't make any

23   changes?

24 A.   Well, we didn't have to make any major updates. You'd

25   have to ask Brian, but we have the specs, we just use

1   it as an extra source, like another second opinion, to

2   verify our reporting.

3   Q.   So you said globally, are you talking about for

4   everything that you've received specifications, you

5   have global specifications for global models?

6   A.   Yes.

7   Q.   What model years for Toyota?

8   A.   I couldn't name specifically all of them.

9   Q.   Do you know how far back it goes?

10   A.   Not offhand.

11   Q.   Is it --

12   A.   It's probably consistent with the Bosch CDR, because

13   they were familiar with providing data to Bosch and

14   they just sent us everything they sent them.

15   Q.   So you think that just sending an Excel spreadsheet to

16   Bosch is how Bosch implements the tool?

17   MR. MONSMA: Objection, foundation.

18   A.   I haven't reviewed --

19   THE ARBITRATOR: Sustained. Go ahead.

20   A.   I haven't reviewed in detail all the specs. I just

21   sent them to Brian and Brian deals with it.

22   BY MR. ZELLER:

23   Q.   How many engineers does Collision Sciences employ?

24   A.   One.

25   Q.   Brian?

1 A. Brian.

2 Q. You testified that Collision Sciences is, quote,

3   getting a more limited set of data than the Bosch

4   tool, is that right?

5 A. We're provided a more limited set of data in our

6   reports and, yes, we're also retrieving more limited

7   data from the vehicle.

8 Q. Is that for all instances?

9 A. Yes, I believe so.

10 Q. So if you're getting a more limited set of data, how

11   do you produce a Bosch report using CDR-Replay?

12 A. Say it again.

13 Q. If you're getting a limited set of data, how can you

14   produce a full Bosch report with CDR-Replay?

15 A. We are, in general, imaging the module, the airbag

16   module, but some of the other modules like the ADAS

17   from GM, we're not imaging that module so we're not

18   going a replay of that data as an example. Another

19   one, like example, there's a whole set with Mercedes

20   and they have a FlexRay networking tool and we don't

21   have any of that. I did mention that earlier.

22   Essentially, we image the airbag module and

23   that raw data can be sent and fed into the Bosch tool,

24   so that would be the data. So while we image all of

25   the data in memory on the modules and we don't -- and

1   there's a lot of data that can be interpreted, like

2   100 pages of data, we just kind of give the high-level

3   highlights, like what's the five seconds of speed and

4   braking and steering and severity, seat belt use;

5   that's kind of it.

6   Q. Why do you get all the data if you don't present it --

7   all the data in your reports?

8   A. When you send a command tool vehicle, it responds.

9   You ask the vehicle to send you some data, you get the

10   data. So you may get more data than you want, but

11   Brian would have to tell you all the details about how

12   all that works.

13   MR. ZELLER: I'm finished.

14   THE ARBITRATOR: All right.

15   MR. MONSMA: I don't have any questions.

16   THE ARBITRATOR: Steve, any additional

17   evidence?

18   MR. ZELLER: No.

19   THE ARBITRATOR: Tim?

20   MR. MONSMA: None.

21   THE ARBITRATOR: Okay. We're going to go

22   off the record in a minute, but let's talk first about

23   the exhibits. Not surprisingly, there were more

24   exhibits marked than we actually needed or used. Are

25   we essentially admitting all of them or only the ones

1   that we referenced during the course of the

2   proceeding?

3   MR. MONSMA: I'm okay with admitting all of

4   them.

5   MR. ZELLER: Yes.

6   THE ARBITRATOR: Okay. So the record will

7   reflect that all of the exhibits, I think that will be

8   three binders for Bosch and a single binder for

9   Collision Sciences, will be our exhibits.

10   Let's go off the record.

11   (Off the record at 2:15 p.m.)

12   (Back on the record at 2:20 p.m.)

13   THE ARBITRATOR: All right. I had the

14   opportunity to speak with counsel, and I think what we

15   agreed upon was the submission of an initial

16   post-hearing brief and then a response brief, each of

17   which to be submitted simultaneously.

18   The initial post-hearing brief will be due

19   on November the 8th and then the responsive brief will

20   be due on December the 6th, and the hearing will

21   remain open until I receive the briefs on December the

22   6th, and at that point the hearing will be deemed

23   closed, and then under the AAA rules, I'll have 30

24   days in which to get you an opinion and award, and I

25   will do just that. Thank you.

1   (Proceedings concluded at 2:21 p.m.)

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1   CERTIFICATE OF REPORTER

2

3   STATE OF MICHIGAN)

4   ) SS

5   COUNTY OF OAKLAND)

6

7   I, JENIFER WEISMAN, hereby certify that I

8   reported stenographically the foregoing proceedings

9   and testimony under oath at the time and place

10   hereinbefore set forth; that thereafter the same was

11   reduced to computer transcription under my

12   supervision; and that this is a full, true, complete

13   and correct transcription of said proceedings.

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22   JENIFER WEISMAN, CSR-6006

23   Notary Public,

24   Oakland County, Michigan.

25   My Commission expires: August 17, 2027

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Exhibit B

Date: Tuesday, September 12 2017 03:10 PM

Subject: Re: Jason Bayley from Collision Sciences

From: Brad Muir <brad.muir@icloud.com>

To: Rose Bill (AA-AS/PRM3_a-Sba) <Bill.Rose@us.bosch.com>;

Bill,

He has been in several classes I taught here.

There are several companies I know of that are working on a solution whereby you hook a CDR kit up remotely to a vehicle OBD port via a wireless link.

They are primarily doing it for Scan tool via remote, but several are working on making it CDR compatible.

This would allow a company from a central location to have one kit and one license, yet offer download service all over and maybe not be in violation of the license as long as its one computer, one interface, one vehicle at a time?

For non-OBD accessible they have a mail in service. I know of several companies offering this service.

The remote-access is very attractive to insurance companies as it is more cost-effective than multiple DLC kits.

Brad

From: Bill Rose <Bill.Rose@us.bosch.com>
Date: Monday, September 11, 2017 at 5:40 PM
To: "Brad Muir (brad.muir@icloud.com)" <brad.muir@icloud.com>
Subject: Jason Bayley from Collision Sciences

Hey Brad,

Do you happen to know Jason Bayley from Collision Sciences? Check their website out: www.collisionsciences.ca

Any thoughts on his approach to investigating using crash data?

Best regards

Bill Rose

(AA-AS/PRM3_a-Sba)
Robert Bosch LLC | 2030 Alameda Padre Serra | Santa Barbara, CA 93103 | USA | www.bosch.us
Tel. +1 805 880-9189 | Mobile +1 805 574-9935 | Fax +1 805 965-3497 | Bill.Rose@us.bosch.com

Exhibit C

AMERICAN ARBITRATION ASSOCIATION AND

INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION

COMMERCIAL ARBITRATION RULES

Bosch Automotive Service Solutions Inc.

     Claimant,

     -vs-

Collision Sciences Inc.

     Respondent.

Case Number: 01-21-0016-2306

Arbitrator: Thomas W. Cranmer

<u>EXPERT REPORT OF JOSHUA HELFINSIEGEL</u>

In accordance with Fed. R. Civ. P. 26(a)(2), the following is my written report describing the

subject matter areas, background, and opinions about which I expect to testify in the present

litigation if called upon to do so.

I.   TABLE OF CONTENTS

II.   TABLE OF ATTACHMENTS

Attachment 1   CV of Joshua HelfinSiegel

Attachment 2   Materials Considered

III. QUALIFICATIONS AND COMPENSATION

1.   I, Joshua HelfinSiegel, am above the age of 18 years old and the following statements are based on my professional knowledge and personal experience.

2.   I have a Bachelor's degree in Computer Science and a Certificate in Bioinformatics and Modeling from Wesleyan University, and have been an EnCase Certified Examiner in computer forensics since 2012.

3.   I am currently employed by DisputeSoft as a Systems Administrator and I.T. Consultant. I have over sixteen years of experience in IT systems administration, database management, security, software and hardware support. Additionally, I have served as a technical and forensic investigation consultant in various complex litigation matters for more than ten years at DisputeSoft, with a focus on matters involving intellectual property rights and software implementation failures.

4.   Particularly relevant here, I have performed forensic analyses, source code comparisons, and audits for various types of intellectual property disputes over many years working at DisputeSoft, searching for evidence of copying or misuse related to alleged trade secret misappropriation, copyright infringement, patent infringement, and breach of license claims. I have searched for evidence of literal and non-literal copying, as well as for the presence or absence of trade secrets and patented systems or methods within source code. My practical experience is described in my curriculum vitae, a true and correct copy of which is attached and incorporated hereto as Attachment 1.

5.   I am being compensated at the rate of $390 per hour for the work I have performed on behalf of Bosch Automotive Service Solutions ("Bosch") for this matter. My compensation is in no way contingent on my findings herein or on the outcome of this matter.

6.   I am the person solely responsible for the opinions contained in this report. I have been

assisted in this matter by DisputeSoft personnel. All analysis and other assistance in

connection with the preparation of this report was performed and provided by me or by

DisputeSoft staff under my supervision and direction. References to "I" or "me" refer to both

myself and the staff members who assisted me in preparing this report. All opinions expressed

in this report are mine alone.

IV.   SCOPE OF WORK

7.   I have been retained by Bosch Automotive Service Solutions Inc. ("Bosch" or "Claimant") to act as an independent technical expert in this suit brought against Respondent Collision Sciences Inc. ("CSI" or "Respondent"). Specifically, I have been requested to review and analyze CSI's corporate computer, software code repositories, and cloud storage locations (collectively the "Audit Systems"), in addition to the documentary record for this matter. I have been requested to provide opinions related to the following questions:

7.1.   How is the Bosch CDR Software related to Respondent's "CDR Replay" tool;

7.2.   Does Respondent's "CDR Replay" tool allow the Bosch CDR Software to run while not connected to a car;

7.3.   Is there evidence indicating the presence and/or use of the Bosch CDR Software by Respondent in the Audit Systems or documentary record that appear outside the scope of the time period described by Respondent's software licenses; and

7.4.   Is there evidence in the documentary record that Respondent "reverse engineered" the Bosch CDR Software, and/or does Respondent utilize data extracted from the Bosch CDR Software or utilize the Bosch CDR Software itself to update new vehicles in Respondent's CrashScan software?

8.   I have also been retained to supplement my findings based on any additional evidence or reports provided on behalf of Respondent.

9.   Pursuant to Paragraph 10 of the April 20, 2022 Order on Software Audit, I captured all activities performed on the Audit Systems using the freely-available Open Broadcaster Software tool for screen recording.[1] I periodically refer herein to the capture videos using the

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[1] More information on Open Broadcaster Software available at https://obsproject.com.

following designation: [hour:minutes] in the [MM-DD-YYYY] Capture Video. These videos

were previously provided in native format as Attachment 4 to my July 31, 2023 Audit Report.

V.   MATERIALS CONSIDERED

10.   The opinions I express in this report are based on my review of the documents and

materials listed throughout this report. The materials I have relied upon include:

10.1.   The Demand for Arbitration, dated August 20, 2021;

10.2.   Order on Software Audit, dated April 20, 2022;

10.3.   Respondent's Explanations Pursuant to Paragraph 8 of Audit Protocol Order;

10.4.   The End User License Agreements ("EULA") for versions 17.3 – 17.7 of the

Bosch CDR Software (BOSCH002827);

10.5.   The EULA for versions 17.8 – 18.1 of the Bosch CDR Software

(BOSCH002795);

10.6.   The End User License Agreements ("EULA") for the Bosch CDR Software,

dated May 30, 2019 (BOSCH000082);

10.7.   The July 31, 2023 HelfinSiegel Audit Report ("Audit Report");

10.8.   Produced documents:

10.8.1.   CS00437680-694 ("Development Notes");

10.8.2.   CS00016681-83 ("Text of CDR.au3"); and

10.8.3.   CS00444978 and CS00013052, emails referencing a "cdr-replay-

controller" repository;

10.8.4.   The Work Logs of Brian Chang-Yun Hsu ("Hsu Work Logs")

(CS00018013, CS00507284, CS00510281, CS00510310, and CS00514207);

10.9.   Excerpts from the October 18, 2023 Deposition of Brian Chang-Yun Hsu ("Hsu

Transcript") as cited in this report;

10.10.   Crash Data Group Sales Receipts to Respondent for one-year subscriptions to

Bosch CDR Software dated October 27, 2015 (BOSCH000923), January 26, 2018

(BOSCH000924) and July 9, 2019 (BOSCH000105);

10.11. Remote access to the Audit Systems, comprised of:

10.11.1. What I believe to be a clone of a laptop computer system used by

Brian Hsu, developer for Respondent (the "Laptop");

10.11.1. Three source code repositories, hosted on Bitbucket for CSI, named

"cdrservice"; "cdr-bluetooth-app-ios"; and "cdrbluetoothapp-android";

collectively the "CSI Code Repositories";

10.11.2. An Amazon Web Services account of CSI, including systems and

databases hosted in Ohio, Northern California, and Canada;

10.12. The documents listed in Attachment 2 attached hereto and footnote citations

throughout this report.

11. My opinions are based upon search, review, and analysis of these materials, as well as

my education, training, and experience, to conduct analyses and reach the findings detailed in

this report with a reasonable degree of professional certainty.

12. I understand that discovery is still ongoing. I reserve the right to consider any additional

information or materials that may be provided to me or that are relied upon by any experts or

fact witnesses, if called upon to testify or provide additional opinions regarding this matter.

13. I anticipate being called as a technical expert witness for Bosch at trial. I reserve the

right to supplement or amend my opinions in light of any additional information that becomes

available prior to or at trial.

VI.   SUMMARY OF OPINIONS

14.   Based upon my review and analysis, as well as my education, training and experience, I have reached with a reasonable degree of professional certainty the following opinions, as further described in the remainder of this report:

14.1.   **Respondent's "CDR Replay" tool is based on and incorporates Bosch's CDR Software.**

14.1.1.   Respondent's "CDR Replay" tool was created and used to simulate the information sent to and from the Bosch CDR Software that occurs during a car crash scan, without actually needing to connect to a real vehicle. Respondent created: 1) scripts to automate the running of the Bosch CDR Software based on a "trace" file captured from a vehicle; 2) software and hardware to mimic or mock up a connection to a real car; and 3) utilized the BUSMASTER software to "eavesdrop" on the messages sent to and from the Bosch CDR Software as part of its "CDR Replay" tool. This new "CDR Replay" tool is improperly based on and incorporates the Bosch CDR Software. This is relevant to the current matter, as it is my understanding from counsel and from previous engagements that one work based upon another could potentially be considered a derivative work, and each of the three EULAs I have reviewed contain text reserving the right to create derivative works of the Bosch CDR software. [2]

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[2] BOSCH002827 and BOSCH002795 section 1.3:

"Licensor reserves all rights for the Licensed Software, in particular exclusive right to reproduce, to distribute, to prepare derivative works therefrom and to publicly display Licensed Software."

BOSCH000082 section 2.4:

14.2.   **Respondent's "CDR Replay" tool runs the Bosch CDR software without a connection to a real car.**

14.2.1.   As stated above, Respondent's "CDR Replay" tool was created and used to simulate the information sent to and from the Bosch CDR Software that occurs during a car crash scan, without actually needing to connect to a real vehicle.[3] This is relevant as the May 30, 2019 EULA for version 19.0 or later of the Bosch CDR Software states: "Connections to vehicles or electronic control units (ECU) for the purposes of retrieving data must be done by directly connect the CDR tool to the vehicle or ECU using CDR tool cables and/or adaptors approved by Bosch."[4] There is evidence on the Laptop and in the documentary record that indicates that versions 19.0 and later of the Bosch CDR Software were run while not connected to a car or ECU as part of Respondent's "CDR Replay" tool.

14.3.   **BOSCH CDR Software versions that were installed on the Laptop appear to be outside of the time periods described by Respondent's software licenses.**

14.3.1.   My Software Audit revealed that versions of the Bosch CDR Software were installed at least 325 times on the Laptop.[5] The installations included at least

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"Bosch reserves all rights for the Software, in particular exclusive right to reproduce, to distribute, to prepare derivative works therefrom and to publicly display the Software."

[3] CS00484086, a February 21, 2018 email from Brian Hsu, "The attached PDF is the report for your car. Raw data from the scan are stored in the database on the server, so I can use those data and "replay" back to the Bosch tool and make it generate a report."

[4] BOSCH000082, section 2.2.1:

"Connections to vehicles and or electronic control units (ECU) for the purposes of retrieving data must be done by directly connect the CDR tool to the vehicle or ECU using CDR tool cables and/or adaptors approved by Bosch. Any connections to a vehicle or ECU through additional hardware and software which is not part of the CDR tool is prohibited including, but not limited to, indirectly connecting the CDR tool through a wireless OBDII communications device, enabling remote connection to CDR tools over a server or internet server."

[5] *See* install logs for the Bosch CDR Software discovered in C:\Windows\appcompat\Programs\Install; dtSearch

versions 16.4, 19.4, 19.4.2, 19.5, 19.6, 21.0, 21.1, 21.2, 21.3, 21.4, and 21.5 of the

Bosch CDR Software. The license agreements I have reviewed indicate that

Respondent was allowed to use the Bosch CDR Software up through version 19.4,

but not any versions after that. However, the Laptop indicates that subsequent

versions of the Bosch CDR Software were installed. Additionally, the Laptop

contained Bosch CDR Software license files for several versions of the Bosch

CDR Software listing companies that were not Respondent, namely Street

Delivery and Biologic Forensics.[6] The Bosch CDR Software version 21.5.1

"licensed to" StreetDelivery was run on the Laptop at least on one occasion, on

July 19, 2022.[7] The documentary record also indicates further sharing of

certificate files for the Bosch CDR Software between Respondent and

StreetDelivery.[8] This sharing of certificate files is relevant, as it is my

understanding from counsel that sections 2.1; 2.1.1; 2.1.2; 2.3; 2.3.6; 2.3.7; and

2.3.8 of the May 30, 2019 EULA address relevant authorized and prohibited

usages of the Bosch CDR Software, with special focus on prohibitions related to

transfer, competitive, or unauthorized usage.[9]

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hits from 345 to 670 are each install logs for the Bosch CDR Software; starting at approximately 4:24 PM in 8-16-2022 Capture Video.

[6] Located in the directories C:\Users\Brian\Documents\CDR Installation\ and C:\Users\Brian\Documents\CDR Installation\Supplier\; reviewed in videos 8-16-22 at approximately 3:21 pm; 8-25-2022 Capture Video at approximately 1:16 pm and 3:47 pm.

[7] *See* crash dump file C:\Users\Brian\AppData\Local\CrashDumps\CDR.EXE.9656 on July 19, 2022; reviewed in 8-25-2022 Capture Video at approximately 12:54 pm.

[8] CS00481806, CS00021283, CS00018832. Additionally, in the Hsu Transcript, 98:1-102:11, Mr. Hsu testified that collision.delivery@gmail.com was an email shared with StreetDelivery.

[9] May 30, 2019 EULA:

2.1. Your Authorized Use of the Software. Subject to your compliance with this EULA in all material respects:

    2.1.1. If You are an individual person and you received an activation certificate ("Activation Certificate") pursuant to a Bosch CDR Tool software Subscription from Bosch or an approved CDR Tool reseller or distributor

14.4.   **Respondent's CrashScan App provides similar crash scan and reporting functionality as the Bosch CDR Software, and leverages Respondent's "CDR Replay" tool incorporating the Bosch CDR Software to continually verify, correct, improve and refine its output.**

14.4.1.   Respondent used a bus-sniffing tool named "BUSMASTER" (coincidentally also created by a Bosch-affiliated entity) to intercept and view the messages sent to and from the Bosch CDR Software. This information was used to extract and examine data transmitted to and from the Bosch CDR Software. This extracted data, along with the "CDR Replay" tool and Bosch CDR Reports generated by using the "CDR Replay" tool, were used to continually verify, correct, improve and refine the output of Respondent's own CrashScan software.[10] Respondent's CrashScan software and reports provide similar features and functions to that of the Bosch CDR software and its associated reports, and Respondents describe

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("Subscription"), Bosch grants You a personal, limited, non-exclusive, non-transferable, non-sublicensable, revocable license to use the Software, in object code form only, for the Purpose on the Designated Equipment. "Designated Equipment" shall mean no more than one personal computer per installation of the Software, such computer equipment to be identified by You as the equipment upon which You will be the primary user and intend the Software to be used.

2.1.2. If You are a company or any other type of organization, Bosch grants to You the right to designate one individual person within Your organization to have the non-exclusive right to exercise the rights set forth in Section 2.1.1.

2.3. Restrictions on Your Use of the Software. The Software or its components may be used only as expressly authorized in this EULA, and in no other way. You expressly agree NOT to:

2.3.6. Provide a copy of the Software to anyone who is not bound by this EULA, or permit, allow, or authorize any other person or entity who is not bound by this EULA to use the Software;

2.3.7. Use or permit any other person to use the Software in any way that competes with Bosch's products or services, except as expressly permitted by applicable law;

2.3.8. Attempt to transfer Your rights under this EULA, or delegate Your obligations under this EULA, without Bosch's express prior written permission.

[10] For examples, s*ee* Hsu Work Logs.

their own solution as a "direct replacement for the Bosch tool."[11] Based on

common English language definitions, this effort could qualify as reverse

engineering. Potential reverse engineering is relevant, as the May 30, 2019 EULA

for the Bosch CDR Software describes a restriction to attempted reverse

engineering.[12]

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[11] CS00521635 generally; "Strategic Business Proposal", attached to a December 7, 2018 email from Jason Bayley to Tom Walsh (CS00521578). Specifically, CS00521638.
[12] BOSCH000082, section 2.3 and 2.3.1.

VII.   FACTS AND BACKGROUND INFORMATION

A. Bosch's CDR Software

15.   Bosch's marketing material states that since the year 2000, Bosch has used its CDR Software to retrieve data from Event Data Recorders ("EDR") installed as part of airbag or other safety systems on automotive vehicles. The Bosch CDR Software has been used to read the data stored on the EDR inside the vehicle, and provide CDR reports based on the data extracted from a vehicle after a car crash.[13]

16.   By default, the Bosch CDR Software installs in a read-only mode; to unlock all of the function of the Bosch CDR Software, including vehicle scans, and printing and saving Bosch-branded CDR reports, a user must purchase a subscription for a one-year license.[14] More information on the software installation process, certificates, subscriptions and activation is available in the "Software Installation Guide" for the Bosch CDR Software.[15]

B. Respondent's CrashScan Software

17.   CrashScan by CSI is marketed as a "universal, mobile-app-based EDR (Event Data Recorder) solution" that also includes "software required to extract all digital forensic data from supported vehicles," user training, and EDR Reports.[16]

18.   A review of the code provided in CSI's online Bitbucket source code repositories revealed that the repositories appear to contain code related to Respondent's CrashScan application, broken up into three repositories: (1) the Server Application, which could be considered the engine of the application, appears to perform the majority of the functions of

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[13] *See* https://cdr.boschdiagnostics.com/cdr/sites/cdr/files/15-93_cdr_crash_data_retrieval.pdf.
[14] Demand for Arbitration, p. 7.
[15] BOSCH002655.
[16] *See* https://www.collision-sciences.com/services.html.

the application, and contains the API; (2) the Android application, which appears to use the API to access the functionality of the Server Application; and (3) the iOS Application, which also appears to use the API to access the functionality of the Server Application.[17]

C. Relevant Licenses

19.   Based on receipts I have seen from Crash Data Group it appears that Respondent purchased one-year licenses for the Bosch CDR Software on October 27, 2015, January 26, 2018, and July 9, 2019.[18] A one-year license allows the user to access and use the then current version of the software, and all future versions that are released during the one-year license term.[19]

20.   I have reviewed the website at "https://cdr.boschdiagnostics.com/cdr/software-downloads", where information on official versions of the Bosch CDR Software are available, and more recent versions are available for download. The release date for each version is provided when a user clicks on a given software version number on the website, e.g., 19.6. The release dates gathered from the Bosch CDR Software download pages for each version of the Bosch CDR Software released since the date of Respondent's first license purchase are reflected in the table below.

Table 1: Bosch CDR Software Versions and Release Dates show on Bosch website

Bosch CDR Software Version	Date of Release	Bosch CDR Software Version	Date of Release
v23.1	03/31/2023	v21.2	8/3/2021
v23.0	10/7/2022	v21.1	5/14/2021
v21.5	4/8/2022	v21.0	1/21/2021
v21.4	1/5/2022	19.6	12/1/2020
v21.3	10/28/2021	v19.5	8/13/2020

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[17] *See also* Item 6(c) of Respondent's Explanations Pursuant to Paragraph 8 of Audit Protocol Order.
[18] *See* BOSCH000923, BOSCH000924, and BOSCH000105, respectively.
[19] *See* https://cdr.boschdiagnostics.com/cdr/products/cdr-system-1-year-software-subscription.

Bosch CDR Software Version	Date of Release	Bosch CDR Software Version	Date of Release
v19.4	5/7/2020	v17.5	10/17/2017
v19.3	12/23/2019	v17.4	6/15/2017
v19.2	12/6/2019	v17.3	4/11/2017
v19.1	9/20/2019	v17.2	1/22/2017
v19.0	6/6/2019	v17.1	11/2/2016
18.0	2/20/2019[20]	v17.0	8/23/2016
v17.10	12/20/2018	v16.6	5/23/2016
v17.9	9/18/2018	v16.5	3/18/2016
v17.8	7/31/2018	v16.4	12/17/2015
v17.7	3/19/2018	v16.3	11/20/2015
v17.6	12/22/2017	v16.2	8/10/2015

21.   Given the release dates above and that Respondents purchased one-year licenses from October 27, 2015 to October 27, 2016; January 26, 2018 to January 26, 2019; and July 9, 2019 to July 9, 2020, the versions available for download and installation during those time periods were versions 16.2 – 17.0; 17.6 – 17.10; and 19.0 – 19.4 of the Bosch CDR Software.

22.   Based on the above and discussions with counsel, it is my understanding that three EULAs are relevant to Respondent's use of the Bosch CDR Software: 1) the EULA for versions 17.3 – 17.7; 2) the EULA for versions 17.8 – 18.1; and 3) the EULA dated May 30, 2019 for versions 19.0 and up.[21]

D. Definitions of Reverse Engineering

23.   Reverse engineering can be defined several ways, "to disassemble and examine or analyze in detail (a product or device) to discover the concepts involved in manufacture usually in order to produce something similar,"[22] "the act of copying the product of another

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[20] There appears to be a typo in the release year for version 18.0, as the previous version, 17.10, was release on December 20, 2018, and the software release details document shows a copyright notice in 2019.

[21] *See* BOSCH002827-831, BOSCH002795-799, and BOSCH000082-087.

[22] *See* https://www.merriam-webster.com/dictionary/reverse%20engineer.

company by looking carefully at how it is made,"[23] and "a process in which a product or system is analyzed in order to see how it works, so that a similar version of the product or system can be produced more cheaply,"[24] among others. In testimony, CSI's Chief Technology Officer, Brian Hsu, defined "reverse engineering" simply as "figuring out how something works."[25]

24.   The key portions of these definitions appear to me to be: 1) detailed analysis or taking apart of a product to understand how it works; and 2) the end goal of creating a similar product.

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[23] *See* https://dictionary.cambridge.org/us/dictionary/english/reverse-engineering.

[24] See https://www.collinsdictionary.com/us/dictionary/english/reverse-engineering.

[25] Hsu Transcript, Page 31:11-13.

VIII.   OPINIONS AND ANALYSIS

A. Respondent has incorporated the Bosch CDR Software into their own "CDR Replay" tool.

25.   Respondent has incorporated the Bosch CDR Software as part of their own "CDR Replay" tool. This is apparent from data on the Laptop, and an April 3, 2018 video demonstration of Respondent's "CDR Replay" tool which I discovered on the Laptop.[26] This is important and relevant as each of the three relevant EULAs state with regard to the Bosch CDR Software, that Claimant, "reserves all rights…to prepare derivative works therefrom."[27] This finding is also potentially relevant, as it is my understanding from counsel and from previous engagements that basing on or incorporating one software work into another one may qualify as a "derivative work".

26.   As support, I incorporate by reference paragraphs 29 through 50 of the Audit Report, where I detail how Respondent incorporated the Bosch CDR Software into its own "CDR Replay" tool for remotely replaying car crash events using the Bosch CDR Software while not connected to a vehicle.[28] The process of using the "CDR Replay" tool is shown in the April 3, 2018 demonstration video found on the Laptop, "CDR Replay.wmv", and displays each component in use for the tool: A database, JSON "trace" data, the Bosch CDR Software, and the BUSMASTER software to intercept and view messages sent to and from the Bosch CDR Software. [29] The "CDR Replay" tool was also succinctly described in a "Summary of Code.pdf" file also found on the Laptop.[30]

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[26] CS00236930.
[27] BOSCH002827; BOSCH002795; BOSCH000082.
[28] Audit Report, pp. 18-34.
[29] This video was located in "C:\Users\Brian\Documents\Expression\Expression Encoder\Output\Brian-MBP 4-3-2018 2.20.25 PM\CDR Replay.wmv"
[30] CS00465053. This document was also located at C:\Users\Brian\Desktop\Desktop\SOURCE CODE\Summary of Code.pdf on the Laptop.

26.1.   "CDR-Replay": The purpose of the contents of this folder is to "listen for

Parameter Identification ("PID") requests coming from a Bosch unit." Based on the

description, this code would likely have been for handling the "eavesdropping" portion

described above in conjunction with the BUSMASTER tool, and playing back "traces"

recorded from an actual vehicle scan. If a source code repository for this source code

exists on Bitbucket for the "CDR-Replay" tool, I was unable to locate it, or it has not

been made available to me.

26.2.   I have also included representative screenshots of the "CDR Replay" tool in use

captured from the April 3, 2018 "CDR Replay" video. The user first logs into a

PostgreSQL database hosted at "app.collisionsciences.ca/phppgadmin/",[31] then

navigates to the "cdr" database. The "cdr" database table "cdr_data" appears to contain

JSON "trace" data "taken previously from a real car."

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[31] Additional screenshot provided in CS00517424, "Black Box Crash Data: cloud-enabled" PPT presentation, slide 23. Web access and login instructions to the database shared in CS00448071, a December 8, 2017 email from Manjeet Singh Rangi.

Image 1: Visible Columns from Row ID 1056 in "cdr_data" from April 3, 2018 video
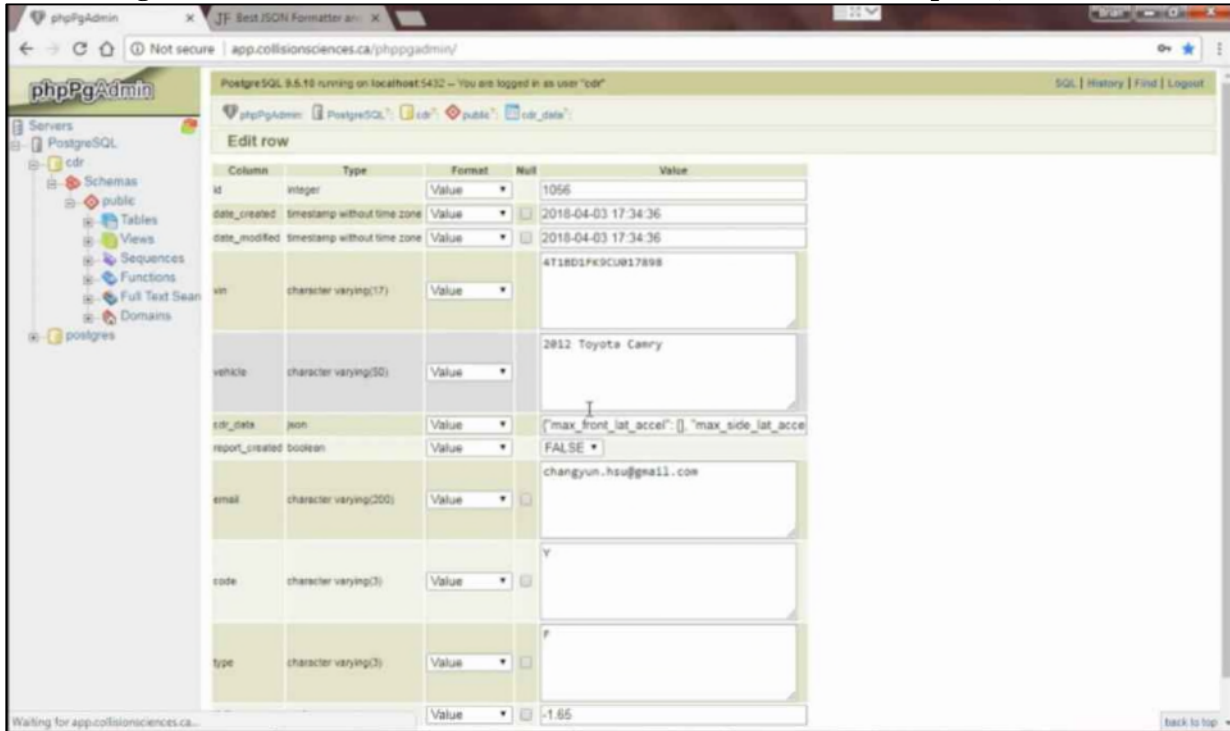
27.   The user then copies the JSON "trace" data from the "cdr_data" field in the database,

and then pastes it into a JSON formatter, then saves the formatted data into an "Input.json"

file. This input "trace" file is further processed into a "Replay.txt" file using the

"ReplayFileMaker.py" Python code. The user then saves out the Vehicle Identification

Number ("VIN") to a "VIN.txt" file, opens the BUSMASTER and Bosch CDR Software

programs, and runs the "CDR Replay" using the "Replay.txt" file and "VIN.txt" file as inputs

to the program. A screenshot of what appears to be the "CDR Replay" tool reading the

vehicle VIN number out of the "VIN.txt" file while not connected to a real vehicle, is shown

below. Also note in the screenshot that the BUSMASTER software has successfully

"eavesdropped" on the message sent to the Bosch CDR Software containing the VIN number,

as shown in the bottom-left window.

Image 2: CDR Replay Tool VIN Number Read using BUSMASTER and Bosch CDR Software[32]
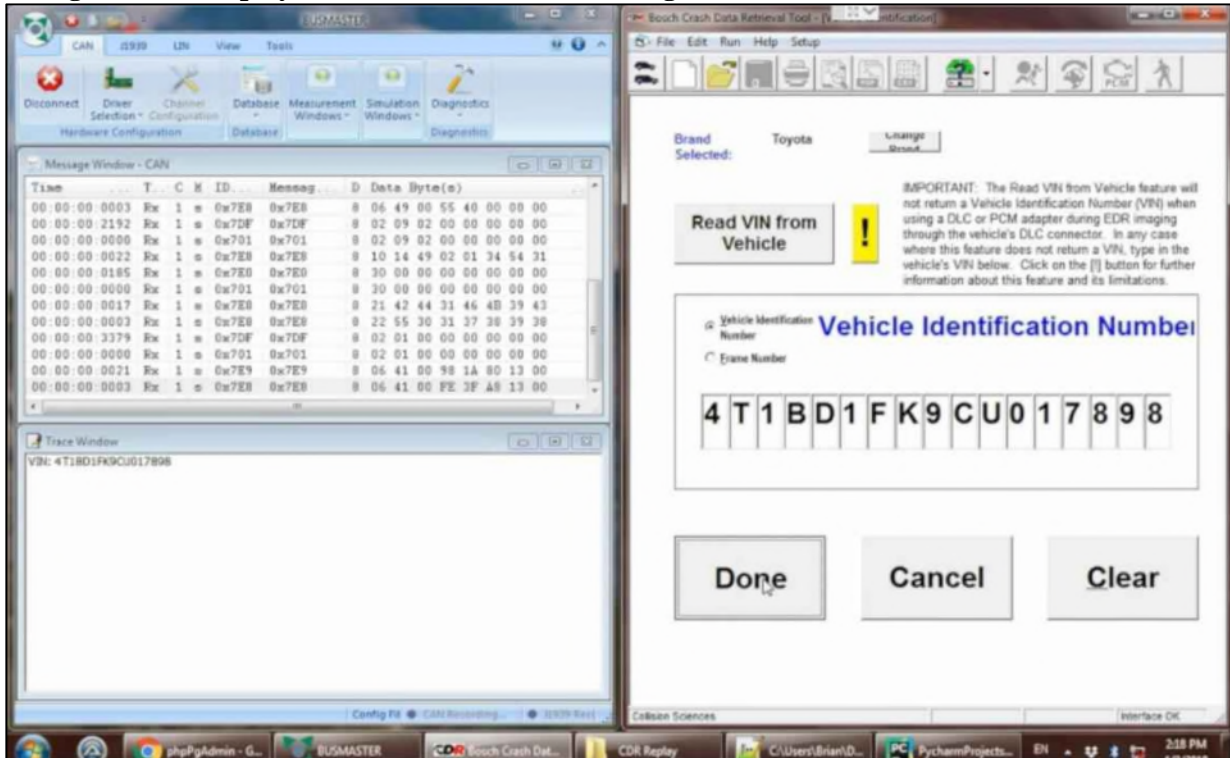
28.   Additionally, my review of the documentary record and Respondent's Developer Notes[33] further indicate that the goal of the "CDR Replay" tool was to "'replay' one of [CSI's] crash data files into the Bosch CDR software." It appears that Respondent took two paths towards this end goal: the "CDR Replay" tool, and the "AutoCDR" tool; the "AutoCDR" tool "merely automates running the Bosch CDR software, using AutoIT."[34] As further support regarding the "AutoCDR" tool, I incorporate by reference paragraphs 54 through 56 of the Audit Report as well. As of April 17, 2018, at least, the Hsu Work Log indicates that AutoIT was still in use, with a time entry stating "Made ReplayFileMaker.py

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[32] Similar screenshots provided in CS00517300. The output appears to be the result of running the file "ABM.cpp", which was written by Brian Hsu. The "ABM" in "ABM.cpp" is likely short for AirBag Module, *see* CS00016315.
[33] CS00437680
[34] CS00437680, also CS00538850: "The Auto IT (Car Crash Analysis) software DOES NOT have anything to do with HEX DATA/PIDs. ... All this AutoIT software does is automate mouse clicks and data entry ..."

and EEPROM.py into the same file, so that AutoIT only needs to run one file."[35] This "AutoCDR" tool is a work based on the Bosch CDR Software, and is relevant in that it may qualify in that respect as a derivative work.

29.   With further regard to the "AutoCDR" tool, the Developer Notes also corroborate earlier findings and suspicions, stating that the "AutoCDR software was created separately (using AutoIT3)…(and the developer is named Thai and is still available)."[36] Also, "CarCrash[.exe] was a continuation of the software, in an attempt to use with a tablet and the green box in the field…to place a 'telematics' order to [Jason Bayley's] server prior to 'auto-running' the cdr software."[37] This evidence supports a finding that AutoCDR and CarCrash.exe were part of an attempt to automate the running of the Bosch CDR Software. Again, this is relevant, as both the "AutoCDR" tool and "CarCrash.exe" are works based on the Bosch CDR Software, and may qualify in that respect as derivative works.

30.   This Developer Notes documents also appear to contain developer notes on progress related to the "CDR Replay" tool, and that as of May 30, 2016 it could extract PID data from a "trace" and "Play that back into the CDR." The telematics developer further writes, "It worked, and generated a report. As for security access, I can now get the CDR to give up its secrets. For Toyota, I have the algorithm figured out…The security key may change year to year, but that can be worked out."[38] Additionally, the document indicates that as of June 15, 2016 there was a plan to attempt to "use the Bosch CDR remotely," when vehicles were not supported by Respondent, record the "trace" for each new part, and that "would theoretically

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[35] CS00018016.
[36] CS00437685.
[37] CS00437685.
[38] CS00437681.

let [CSI] support 100% of vehicles out of the gate."[39] As of June 29, 2016, a developer for

Respondent was:

> [W]orking on full automation of the CDR report generation. This involved running the Bosch software automatically and playing recorded data into it. That's working now within a virtualized environment. The next step here is to poll the server for new reports, so the whole process is automated.[40]

31.   Further, the "telematics project summary" describes a prototype and goal software of

remotely reading PIDs from a vehicle, sending to a server, then having that data "played back

into the Bosch lab hardware/software" to create reports, with the further goal to have a system

that used a Bluetooth OBDII dongle and a mobile app to collect and send PID data to a server,

replay the data into the Bosch CDR Software, and then automatically email a crash data report

to the end user.[41] The "play back" of the data in the Bosch CDR Software is likely

Respondents "CDR Replay" tool. The document additionally includes links to a hardware

"CAN hack sniff/trace tool that [CSI] used. i.e., an OBDII to USB solution that monitors all

CAN frames".[42]

32.   The documentary record includes numerous emails related to the development of this

"CDR Replay" tool. For example:

    32.1.   On May 12, 2017, Jason Bayley informs Jonathan Gomes, a newly hired full

    stack developer, to "keep in mind that [he] may need to determine what is missing to be

    able to 'replay' one of [CSI's] crash data files into the Bosch CDR software" and that

    "this process may require the scripts named 'fake cdr' or 'live cdr', while feeding a .json

    'cdr replay' file."[43]

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[39] CS00437682.
[40] CS00437684.
[41] CS00437687.
[42] CS00437691.
[43] CS00437680.

32.2.   Jason Bayley also emphasizes to Jonathan Gomes that "[his] ultimate hope is that [Jonathan] can FIRST figure out how to get [the GO and related code] to function, that is to 'play back' one of [CSI's] unique .json files into the Bosch software, with the linked code running."[44]

32.3.   On May 18, 2017, Karpagam C.P, an independent contractor hired by Jason Bayley, writes that Jason "did mention that CDR software is similar/replica to Bosch software …"[45]

32.4.   On May 18, 2017, Jason Bayley writes to Karpagam C.P and Jonathan Gomes that "The Bosch CDR Windows software handles the conversion of hex data (or pid responses?) into the pdf Crash Data Report. Maybe there is no actual hex data stored in a file, and we just feed the Bosch software responses to requests it makes..."[46]

32.5.   On August 24, 2017, Jason Bayley writes to a person named Vladimir stating "I was working with an engineer who took traces of the Bosche [sic] system, by reverse engineering the process with a CAN bus sniffer, etc. We developed a mobile app and api to retreive [sic] event data on the vehicle side; we then ran the collected PIDs through the Bosche [sic] software/hardware, making it think it was plugged into a car. However, I am interested in making custom pdfs now. I recall you had experience turning hex data into pdfs, so I am wondering if you'd be interested in a project like this?   I have a custom software for several manufacturers, and sample hex data shown on Bosche's [sic] cdr reports for many module types. There is a large amount of reverse engineering still to do as well."[47]

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[44] CS00471345.
[45] CS00449590.
[46] CS00538850.
[47] CS00534553.

32.6.   On August 29, 2017, Jason Bayley writes to Craig Parker at Toyota explaining

CSI's crash data work, stating "We have a working end-to-end prototype (Android app

to server to vehicle/module emulator into the Bosch software to make pdf) for several

manufacturers on CAN networks (Toyota, Ford, Chrysler, Nissan, VW) …"[48]

33.   Respondent appears to have succeeded, as from late 2017 onwards, Respondent

frequently references the ability to "Replay" data collected with its remote application into the

Bosch CDR Tool.[49] It also appears that the process was working at least as of April 3, 2018,

from the "CDR Replay" demonstration video.[50] The Work Logs of Mr. Hsu indicate

continued usage of the "CDR Replay" tool as of May 2020, as will be discussed below in

section D in detail.

34.   In addition to the above, the documentary record contains what appear to be automated

alert email messages to Brian Hsu containing the text "Check data decoding scheme with

CDR replay,"[51] or, "Check data accuracy with CDR replay,"[52] from the time period between

January 6, 2020 until as late as May 11, 2022. These alert emails suggest that the "CDR

Replay" tool was still in use from early 2020 through at least May of 2022.

B. Respondent's "CDR Replay" tool runs the Bosch CDR software without a connection to a real car.

35.   As described above and in my July 31, 2023 Audit Report, Respondent's "CDR

Replay" tool allows the running or "replaying" of the Bosch CDR Software without a

connection to a real car. For example, as previously discussed, Image 2 above depicts the

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[48] CS00469075.
[49] *See, e.g.,* CS00521696, attached to email of April 9, 2019 (CS00521694) ("The tech has several components: Ability to Replay the raw crash data into Bosch CDR Tool").
[50] CS00236930.
[51] For example, CS00020037 email from May 11, 2022; CS00013984 email from April 5, 2022.
[52] For example, CS00019390 email from December 13, 2021; CS00021441 email from December 9, 2020; CS00015676 email from January 6, 2020.

Bosch CDR Software being used to read a vehicle VIN number from a "VIN.txt" file on a computer rather than from a vehicle. This is important and relevant as it is my understanding from the May 30, 2019 EULA and counsel that running version 19.0 or later of the Bosch CDR Software while not connected to a vehicle is a "prohibited" use for the Bosch CDR Software.[53] The April 3, 2018 "CDR Replay.wmv" video demonstrates that as of April 3, 2018, version 17.7 of the Bosch CDR Software was used as part of Respondent's "CDR Replay" tool.

36.   There is evidence that Respondent continued to use CDR Replay for later versions of the Bosch CDR Software. Specifically, emails from CSI's CEO and CTO, Jason Bayley and Brian Hsu, respectively, involve discussions of creating and sending Bosch CDR reports using "replay", and attaching versions of the Bosch CDR Software's reports, generated using at least Bosch CDR Software versions 19.0, 19.1, 19.1.1, 19.2, 19.3.1, 19.4, for each of which the May 30, 2019 EULA should be relevant.

37.   The emails are primarily sent by Jason Bayley, and on occasion refer to the Bosch CDR Software report as the "raw" data, as seen below. A non-exhaustive sample of the emails include text such as:

37.1.   "Sending the replay version of CDR report,"[54] with a Bosch CDR Software version 19.0 CDR report attached.[55]

37.2.   "Have the ability to generate these Bosch CDR reports in our lab…I'm

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[53] BOSCH000082, section 2.2.1:

"Connections to vehicles and or electronic control units (ECU) for the purposes of retrieving data must be done by directly connect the CDR tool to the vehicle or ECU using CDR tool cables and/or adaptors approved by Bosch. Any connections to a vehicle or ECU through additional hardware and software which is not part of the CDR tool is prohibited including, but not limited to, indirectly connecting the CDR tool through a wireless OBDII communications device, enabling remote connection to CDR tools over a server or internet server."

[54] CS00448949 September 17, 2019 email.

[55] CS00448951.

attaching our version of the Bosch report (using the latest software version 19.0),"[56]

with a Bosch CDR Software version 19.0 CDR report attached.[57]

37.3. "Did a replay into the Bosch CDR as the DeltaV is very high (70km/h) and I

can confirm that this value matches the Bosch CDR report, which I have attached. I can

explain further how we do this, but essentially, we send the Bosch tool the exact hex

data from the EDR,"[58] with a Bosch CDR Software version 19.1 CDR report attached.[59]

37.4. "Hey, can you please do a replay…," and a response, "Here you go,"[60] from

Brian Hsu with an attached Bosch CDR Software version 19.1 report.[61]

37.5. "I'm attaching the CS EDR Report (and our backend Bosch CDR),"[62] with a

Bosch CDR Software version 19.1.1 CDR report attached.[63]

37.6. "Can you replay this one…" later response from Brian Hsu "The CDR report is

attached," [64] with an attached Bosch CDR Software version 19.1.1 report.[65]

37.7. "I'm attaching our EDR Claims Report and the Bosch CDR interpretation report

for this file,"[66] with a Bosch CDR Software version 19.2 CDR report attached.[67]

37.8. From Brian Hsu to Jason Bayley, "I have completed a data download from the

airbag module…The generated Bosch CDR report is attached,"[68] with a Bosch CDR

Software version 19.3.1 CDR report attached.[69]

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[56] CS00446031 September 18, 2019 email.
[57] CS00446035.
[58] CS00484345 September 20, 2019 email.
[59] CS00484347.
[60] CS00024812 September 25, 2019 email.
[61] CS00024814.
[62] CS00528869 November 19, 2019 email.
[63] CS00528880.
[64] CS00450468 November 22, 2019 email.
[65] CS00450471.
[66] CS00530586 December 9, 2019 email.
[67] CS00530588.
[68] CS00465392 February 25, 2020 email.
[69] CS00465393.

37.9.   From Brian Hsu, "Here is the report containing the raw hexadecimal data,"[70]

with a Bosch CDR Software version 19.3.1 CDR report attached.[71]

37.10.   From Brian Hsu, "Please find the Bosch report for the vehicle attached,"[72] with

a Bosch CDR Software version 19.4 CDR report attached.[73] Additionally, this report has

an "imaging date" that is three months later than the "saved" or "printed" date,

potentially indicative of the "CDR Replay" tool's use, since the imaging date would

normally be prior or the same as the save or print date of a given Bosch CDR Software

report.

37.11.   On May 18, 2017, Jason Bayley writes to Karpagam C.P [sic] and Jonathan

Gomes stating "What we need to focus on (and maybe Jonathon will understand

better)... is "playing back" the .json files (while running some other app, like fake

cdr? or live cdr?) which basically makes the Bosch hardware think its plugged into a

vehicle or an airbag module."[74]

37.12.   Jason Bayley also writes "For our telematics purposes now, the CDR Bosch

software can have that order info (vehicle, VIN, date) entered manually (and then we

click 'Run: Collect ACM Data'; it is at this point that we 'play back' our .json file; the

Bosch CDR Harware/software [sic] thinks that it is plugged into either an airbag module

or a vehicle."[75]

37.13.   On August 24, 2017, Jason Bayley writes to a person named Vladimir stating

"[CSI] developed a mobile app and api to retreive [sic] event data on the vehicle side;

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[70] CS00448843 April 29, 2020 email.
[71] CS00448845.
[72] CS00457484 June 1, 2020 email.
[73] CS00457490.
[74] CS00538850.
[75] CS00538850.

[CSI] then ran the collected PIDs through the Bosche [sic] software/hardware, making it think it was plugged into a car."[76]

37.14.   On September 29, 2017, in an email chain between Jason Bayley, Brian Hsu, and Renan Pedrosa on September 29, 2017:[77]

> 37.14.1.   Brian Hsu writes "I went through the CAN data that we got off of my car yesterday, and it seems that, at least in this case, the CDR determined what commands to send based solely on the VIN. … So, I think we can trick the CDR to get us a bunch of information just by using randomly generated VINs that correspond to different vehicles."

> 37.14.2.   Brian Hsu writes "What I have in mind:
>
> 1. Generate random VIN numbers
>
> 2. Send out the request to the CDR
>
> 3. Save all commands that the CDR sent out in a file.
>
> This is essentially the database that we want.
>
> 4. Repeat for other vehicles"

> 37.14.3.   With regards to using CAPL to write code, Brian Hsu writes "We can select the make, the year, and the model using the panel and then the program will automatically send out commands to a real car to get crash data. But for now, of course, the goal is to get those commands by tricking the Bosch CDR into thinking that it is talking to a real car."

> 37.14.4.   With regards to using the CANalyzer software, Jason Bayley writes: "I mean, in theory all this will work... but in case this CANalyzer is very costly... it

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[76] CS00534553.
[77] CS00522552.

would be nice to have a "proof of concept" that we can spoof VINs..."

      37.14.5.   Brian Hsu later writes "I have finished writing a program in CAPL that would trick the CDR into thinking that it is talking to my car," and attaches a file named "Bosch CDR.txt."[78]

    37.15.   On May 26, 2020, Jason Bayley describes the process of using CDR Replay to a potential collaborator: "You should understand that there is a manual quality check on report data presentation, and we replay the crash data through the OEM tools to review a Bosch CDR report or similar for every collision."[79]

38.   In addition to the above and as discussed earlier, the documentary record also contains what appear to be automated alert email messages to Brian Hsu containing the text "Check data decoding scheme with CDR replay,"[80] or, "Check data accuracy with CDR replay,"[81] from the time period between January 6, 2020 until as late as May 11, 2022. These alert emails suggest that the "CDR Replay" tool was still in use from early 2020 through at least May of 2022.

39.   Taken together, these emails further support a conclusion that Respondents continued to use and update the "CDR Replay" tool with newer versions of the Bosch CDR Software as they became available. These emails also support a conclusion that Respondents used the software without a connection to a vehicle via the "CDR Replay" tool, with version 19.0 and newer of the Bosch CDR Software, to which the May 30, 2019 EULA should be relevant.

C. Bosch CDR Software versions that were installed on the Laptop appear to be outside of the time period described by Respondent's software licenses.

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[78] CS00483405; CS00483416.
[79] CS00530170.
[80] For example, CS00020037 email from May 11, 2022; CS00013984 email from April 5, 2022.
[81] For example, CS00019390 email from December 13, 2021; CS00021441 email from December 9, 2020; CS00015676 email from January 6, 2020.

40.   As described above, given the release dates of Bosch CDR Software versions and Respondent's one-year license purchase dates, the versions of Bosch CDR Software available during those time periods were versions 16.2 – 17.0; 17.6 – 17.10; and 19.0 – 19.4 of the Bosch CDR Software. There is evidence on the Laptop that Respondents installed versions 19.5, 19.6, 21.0, 21.1, 21.2, 21.3, 21.4, and 21.5 on the Laptop, versions that would not have been available during the time periods referenced by Respondent's purchase orders made available to me.

41.   As described in paragraphs 23 through 28 in the Audit Report, incorporated here by reference, evidence on the Laptop indicates that multiple versions of the Bosch CDR Software were installed and/or reinstalled at least 325 times.[82] There are logs of installation for at least the following eleven versions of Bosch's CDR Software:

Table 2 Versions of Bosch CDR Software that had been installed on the Laptop as of 8-14-2022

16.4	19.4	19.4.2	19.5	19.6	21.0
21.1	21.2	21.3	21.4	21.5	

42.   The Laptop also contains evidence that the Bosch CDR Software was run via Windows program crash files, and application hang events. An application crash is when a program encounters an error and needs to close unexpectedly.[83] An application hang, as differentiated from a crash, is when a Windows application becomes unresponsive for a period of time, but does not crash, and eventually becomes responsive again.[84] These hangs and crashes are

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[82] Install logs for Bosch CDR Software discovered in C:\Windows\appcompat\Programs\Install; dtSearch hits from 345 to 670 are each install logs for the Bosch CDR Software; approximately 4:24 PM in 8-16-2022 Capture Video.

[83] "A crash is when something experiences a fault and has no choice but to exit," as described at https://techcommunity.microsoft.com/t5/ask-the-performance-team/basic-debugging-of-an-application-crash/ba-p/372392.

[84] "The operating system defines an application hang as a UI thread that has not processed messages for at least 5 seconds. Obvious bugs cause some hangs, for example, a thread waiting for an event that is never signaled, and two threads each holding a lock and trying to acquire the others. You can fix those bugs without too much effort. However, many hangs are not so clear. Yes, the UI thread is not retrieving messages - but it is equally busy doing other 'important' work and will eventually come back to processing messages," available at https://learn.microsoft.com/en-us/windows/win32/win7appqual/preventing-hangs-in-windows-applications.

predominantly for version 17.9 and 19.4 of the Bosch CDR Software, with at least one crash of version 21.5.1. [85]

43.　　This crash of the Bosch CDR Software version 21.5.1 on July 19, 2022 (per the crash dump file C:\Users\Brian\AppData\Local\CrashDumps\CDR.EXE.9656) is noteworthy for two reasons: first, the application crash for the Bosch CDR Software is for a recent version, version 21.5.1, well outside the time periods which are referenced in Respondent's purchase orders; and second, the "licensed company" is "StreetDelivery," and not CSI. **This crash dump file was likely generated on the Laptop when Bosch Software version 21.5.1 was running on the Laptop using the StreetDelivery license file**. This is evidence that Respondent ran Bosch CDR Software on the Laptop using other customer's licenses and certificates.[86]

44.　　In particular, the Laptop contained Bosch CDR Software license certificates for several versions of the Bosch CDR Software licensed to third-party companies that were not Respondent, namely Street Delivery and Biologic Forensics. The Laptop contained activation certificate files, "CTF files," that appeared to be for "1 year" terms, located in the directories C:\Users\Brian\Documents\CDR Installation\ and C:\Users\Brian\Documents\CDR Installation\Supplier, and listed in the table below.[87]

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[85] As seen from approximately 3:08 pm to 3:42 pm in 8-16-2022 Capture Video.
[86] Visible at approximately 12:54 pm in 8-25-2022 Capture Video, the CDR.EXE Application crash was from July 19, 2022.
[87] Seen at approximately 1:16 pm in 8-25-2022 Capture Video; Supplier certs reviewed at approximately 3:47 pm in 8-25-2022 Capture Video.

Table 3: CTF Certificate Files on Laptop for companies other than CSI in the "Supplier" folder

Bosch CDR Software Version	Company listed within the CTF file
21.5	Street Delivery
21.5	BioLogic Forensics
21.4	StreetDelivery
21.3	StreetDelivery
21.2	StreetDelivery
21.2	BioLogic Forensics
21.1	BioLogic Forensics
21.0	BioLogic Forensics
19.6	BioLogic Forensics
19.4	BioLogic Forensics

45.   There is also evidence in the documentary record related to Respondent requesting license and certificate files from StreetDelivery for at least Bosch CDR Software versions 21.2, 21.3, 21.5 and 23:

45.1.   In October 2021 and December 2021, Jason Bayley asks Eric Castiglioni, vice president at StreetDelivery, to forward him the .ctf files for Bosch CDR software v21.2 and v21.3, respectively.[88] Jason Bayley writes "Can you please forward the .ctf file for the most recent software version? … You can forward them to Brian if you see these emails, they are released every quarter or so."[89] Eric sends the files and writes "I will forward all Bosch communications from now on so that we are on the same page."[90]

45.2.   On April 9, 2022, Eric Castiglioni forwards the activation email and CTF file for Bosch CDR software v21.5 to Jason Bayley and Brian Hsu, simply writing "Passing along."[91]

45.3.   On November 16, 2022, Eric Castiglioni forwards a Bosch message regarding a software patch for the Bosch CDR software to Brian Hsu. On December 28, Brian Hsu

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[88] 3PP_0000260.
[89] 3PP_0000260.
[90] 3PP_0000260.
[91] 3PP_0000269.

asks Eric Castiglioni to send him the license for Bosch CDR software v23.0, which Eric

sends.[92]

46.   These certificate files from third-parties as well as the application crash of the Bosch

CDR Software running "licensed to" Street Delivery raise the question as to why CSI would

be running Bosch CDR Software on this Laptop using a license(s) from a different company,

and whether Respondents may have improperly caused StreetDelivery and/or Biologic

Forensics to improperly share license and certificate files with Respondent. It is my

understanding from counsel that sections 2.1; 2.1.1; 2.1.2; 2.3; 2.3.6; 2.3.7; and 2.3.8 of the

May 30, 2019 EULA are relevant regarding authorized and prohibited usage of the Bosch

CDR Software, with special focus on prohibitions related to transfer, competitive, or

unauthorized usage.[93]

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[92] 3PP_0000256.
[93] May 30, 2019 EULA:

2.1. Your Authorized Use of the Software. Subject to your compliance with this EULA in all material respects:

    2.1.1. If You are an individual person and you received an activation certificate ("Activation Certificate") pursuant to a Bosch CDR Tool software Subscription from Bosch or an approved CDR Tool reseller or distributor ("Subscription"), Bosch grants You a personal, limited, non-exclusive, non-transferable, non-sublicensable, revocable license to use the Software, in object code form only, for the Purpose on the Designated Equipment. "Designated Equipment" shall mean no more than one personal computer per installation of the Software, such computer equipment to be identified by You as the equipment upon which You will be the primary user and intend the Software to be used.

    2.1.2. If You are a company or any other type of organization, Bosch grants to You the right to designate one individual person within Your organization to have the non-exclusive right to exercise the rights set forth in Section 2.1.1.

2.3. Restrictions on Your Use of the Software. The Software or its components may be used only as expressly authorized in this EULA, and in no other way. You expressly agree NOT to:

    2.3.6. Provide a copy of the Software to anyone who is not bound by this EULA, or permit, allow, or authorize any other person or entity who is not bound by this EULA to use the Software;

    2.3.7. Use or permit any other person to use the Software in any way that competes with Bosch's products or services, except as expressly permitted by applicable law;

    2.3.8. Attempt to transfer Your rights under this EULA, or delegate Your obligations under this EULA, without Bosch's express prior written permission.

D. Respondent's CrashScan App provides similar crash scan and reporting functionality as the Bosch CDR Software, and leverages Respondent's "CDR Replay" tool incorporating the Bosch CDR Software to continually verify, correct, improve and refine its output.

47.   Respondent used a bus-sniffing tool named "BUSMASTER" (coincidentally also created by a Bosch-affiliated entity) to intercept and view the messages sent to and from the Bosch CDR Software. This information was used to extract and examine data transmitted to and from the Bosch CDR Software. This extracted data, along with the "CDR Replay" tool and Bosch CDR Reports generated by using the "CDR Replay" tool, were used to continually verify, correct, improve and refine the output of Respondent's own CrashScan software. Respondent's CrashScan software and reports provide similar features and functions to the Bosch CDR software and its associated reports, and Respondents describe their own solution as a "direct replacement for the Bosch tool."[94] Based on common English language definitions, this effort could qualify as reverse engineering. Potential reverse engineering is relevant, as the May 30, 2019 EULA for the Bosch CDR Software describes a restriction to attempted reverse engineering. Jason Bayley himself also believed that he and his team at CSI had reverse engineered their CrashScan diagnostic tool based on the Bosch CDR Software.[95]

48.   I incorporate here by reference paragraphs 57 through 63 of the Audit Report. The bulk of the reverse engineering effort described appeared to be in intercepting, interpreting, and decoding the messages sent to and from the Bosch CDR Software and data used within the

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[94] CS00521635 generally; "Strategic Business Proposal", attached to a December 7, 2018 email from Jason Bayley to Tom Walsh (CS00521578). Specifically, CS00521638.

[95] CS00521578, a December 12, 2018 email from Jason Bayley to Tom Walsh (Wawanesa) describes the process of creating the CrashScan as, "the reverse engineering manner in which we developed our diagnostic solution."; CS00517300, an October 12, 2017 email thread where Jason Bayley states, "Its looking more and more promising. And great investigative work with the pins and resistor! I will send some info I've gathered on the Toyota seed key algorithm, which may help... but also may need to be reverse engineering further also. Keep the updates coming!"

Bosch CDR Software reports in order to build and continuously improve Respondent's own CrashScan product.

49.   This process is further borne out in numerous emails, where Jason Bayley and Brian Hsu are checking the results from the "CDR Replay" tool to compare and improve the CrashScan product. Some examples are in paragraph 37 above in this report.

50.   Particularly relevant to reverse engineering was this correspondence:

50.1.   On August 24, 2017, Jason Bayley writes to a person named Vladimir stating "I was working with an engineer who took traces of the Bosche [sic] system, by reverse engineering the process with a CAN bus sniffer, etc. We developed a mobile app and api to retreive [sic] event data on the vehicle side; we then ran the collected PIDs through the Bosche [sic] software/hardware, making it think it was plugged into a car. However, I am interested in making custom pdfs now. I recall you had experience turning hex data into pdfs, so I am wondering if you'd be interested in a project like this?   I have a custom software for several manufacturers, and sample hex data shown on Bosche's [sic] cdr reports for many module types. There is a large amount of reverse engineering still to do as well."[96]

51.   Additionally, the Work Logs of Brian Chang-Yun Hsu detail how the Bosch CDR Software as part of Respondent's "CDR Replay" tool, as well as Bosch CDR Software reports were used to improve Respondent's own CrashScan product over time.[97] As Mr. Hsu testified that his time entries were accurate descriptions of the work he was doing at the time,[98] the following appear to be true:

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[96] CS00534553.
[97] Document starting CS00018013.
[98] Hsu Transcript, page 144:12-146:3.

51.1.   On April 16, 2018, Mr. Hsu used the "CDR replay for Toyota Cable 617" to improve and correct the source code for the vehicle.py Python source code for Respondent's CrashScan application, writing "Made a replay file for Cable 617 so that I could test the app and debug," then "Found an error in the calculation…fixed the error in vehicle.py."[99] Vehicle.py is part of Respondent's CrashScan application.[100] Mr. Hsu was using the "CDR Replay" tool (which incorporated the Bosch CDR Software) to test, debug, find, and fix errors in Respondent's own CrashScan software.

51.2.   On April 17, 2018, Mr. Hsu "Replayed the data from Chad's truck to make sure the received data was complete for the CDR,"[101] Mr. Hsu used the "CDR Replay" tool to ensure data completeness in the CrashScan software.

51.3.   On April 25, 2018, Mr. Hsu writes "Tried to replay the 2011 Toyota Corolla, which uses K-Line, but the ReplayFileMaker got an error. After some analysis I found the error and corrected it. The replay file then was made and replayed successfully. I then noticed that the resolution was a little bit off. I recalculated the resolution and updated vehicle.py."[102] Mr. Hsu used the "CDR Replay" tool incorporating Bosch CDR Software to recalculate and improve vehicle.py, part of Respondent's CrashScan software. Similarly, he also writes "Replayed a 2015 Ford Focus, but the CDR asked for an additional PID at the very end (22 F1 25). I added that PID to our request list. Since there could be more PIDs after the F1 25, we need to find similar cars and take a trace to get all PIDs."[103] Mr. Hsu used the "CDR Replay" tool incorporating Bosch CDR

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[99] CS00018014.
[100] *See* paragraph 58.1 of the Audit Report.
[101] CS00018016.
[102] CS00018019.
[103] CS00018019.

Software to identify data that may be missing from Respondent's CrashScan software, and to take steps to improve the CrashScan software based on that finding.

51.4.   On April 27, 2018, Mr. Hsu writes "2014 Toyota Matrix had a side impact, but the app did not report anything. This is due to pending response not completely removed from the raw data (fixed yesterday). Replayed this car's data and confirmed that the app would report the correct side impact delta-v."[104] This is another instance of using the "CDR Replay" tool to improve the CrashScan app. Similarly, "Implemented newly discovered FCA CAN ID in vehicle.py. The upgraded FCA process now checks three sets of CAN IDs, and then based on the responses it determines which set of PIDs to use. If all three CAN IDs cannot get any response from a car, the process ends."[105] Vehicle.py is part of the CrashScan app, implementing new features discovered due to the "CDR Replay" tool. Also, "Checked the 2015 Ford Focus trace. It looks like the CDR only asks F1 25 at the end of the process and no other PIDs, so the current PID list is okay."[106] This is another instance of using the trace and "CDR Replay" tool to improve and validate the data, specifically the PID list, in the CrashScan application.

51.5.   On April 29, 2018, Mr. Hsu writes "Got a 2003 Buick Rendezvous from AmFam. This is a cable 829 module that I had not decoded due to lack of data (we only had one report before this). CDR replay worked and it was a pre-crash data only scan. Decoded available information and added in Python."[107] Also, "Went back and located the byte that controls whether pre-crash brake values were valid or not for GM VPW

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[104] CS00018020.
[105] CS00018020.
[106] CS00018020.
[107] CS00507293.

cable 829 subtype 4. Updated the Python code to check that byte." [108] The "CDR Replay" tool was used to allow decoding of information, and improving the Python code of Respondent's CrashScan application.

51.6.   On March 16, 2020, Mr. Hsu writes "GCNA scanned a 2020 Lexus ES 300h. The part number is not on the CDR's list, but the CDR was able to process it and generated a report (no crash data). Added the part number in the database." The Bosch CDR Software was used to improve the database for Respondent's CrashScan software.

51.7.   On March 22, 2020, Mr. Hsu writes "Replayed a 2001 GMC Yukon XL by AmFam Ethos. The scan contained no crash data, but the generated report still said manual review required. Checked the database and confirmed that the model `Yukon' was in the database, but not `Yukon XL'. Added `Yukon XL' for model years 2001 to 2005."[109] The "CDR Replay" tool was used to improve and update the database for Respondent's CrashScan product.

51.8.   On March 23, 2020, Mr. Hsu writes "Checked a 2018 Toyota Hilux scanned by MiWay South Africa. The delta-V and pre-crash data were all accurate. However, a couple of items in the seat belt and airbag table were different from the CDR. Checked the raw data and the bytes would correspond to what our interpretation was, but the CDR regarded them as 'SNA'. Could not figure out how the CDR determined that."[110] The "CDR Replay" tool was used to investigate an issue and attempt to determine how the Bosch CDR Software determined the "SNA" code.

51.9.   On March 24, 2020, Mr. Hsu writes "Replayed and reviewed 2 AmFam GM

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[108] CS00507293.
[109] CS00510285.
[110] CS00510286.

VPW reports. Both contained no crash data as confirmed by the CDR."[111] The "CDR Replay" tool was used to validate and confirm reports generated by the CrashScan software.

51.10.   On March 25, 2020, Mr. Hsu writes "Replayed and reviewed a 2014 Toyota Corolla Quest scanned by KPNA as it triggered an internal alert of large variation in pre-crash speed. CDR confirmed the data accuracy."[112] The "CDR Replay" tool was used to confirm and validate the accuracy of Respondent's software.

51.11.   On March 26, 2020, Mr. Hsu writes "Checked the 2001 Lincoln LS scanned by HUB. The delta-V value was off by a little bit. Checked the source code and confirmed the processing code was correct. The difference comes from the conversion factor used by Bosch. The module records longitudinal acceleration in g, and the CDR converts it to delta-V in mph. However, instead of using the more accurate conversion factor of 1.60934, it just used 1.6, so the results are slightly different."[113] The "CDR Replay" tool was used to verify, validate, and confirm conversion values used by Respondent's CrashScan software.

51.12.   On March 27, 2020, Mr. Hsu writes "Replayed the 2013 Volvo S80 scanned by AmFam but CDR crashed again like it did for another Volvo in January. Tried the CDR900 and got the same error. Went over the ISO for AllState with Shekar. Compared the trace from another Volvo with the 2013 S80 from today. Moved some responses to a different location within the replay file and the CDR worked. This might be a Busmaster file reading issue."[114] The "CDR Replay" tool was used to improve and troubleshoot the

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[111] CS00510287.
[112] CS00510287.
[113] CS00510288.
[114] CS00510289.

"CDR Replay" tool itself.

51.13.   On March 31, 2020, Mr. Hsu writes "Checked and replayed a 2018 Volkswagen

Tiguan. This vehicle had all 6 event slots filled, but 4 of which had only pre-crash data,

with all 0 delta-V values. Modified the logic to display an event as 'Pre-Crash Data

Only' if all delta-V values are 0."[115] The "CDR Replay" tool is used to diagnose and

improve the programming logic for the CrashScan software.

51.14.   On April 3, 2020, Mr. Hsu writes "Replayed and checked a 2006 Saturn Ion.

The report looked good, but the longitudinal delta-V was off by 0.02 mph. Fed fake

values back to the CDR to get a more accurate resolution. Updated the resolution in

Python."[116] The "CDR Replay" tool was used to improve the Python code for

Respondent's CrashScan software.

51.15.   On May 2, 2020, Mr. Hsu writes "Went back to Honda K-Line decoding and

located bytes that were relevant for controlling precrash data display by systematically

making data bytes 0x00. Found the bits that control pre-crash steering, ABS, and ESC.

Added checks for support for steering, ABS, and ESC in the Honda K-Line processing

code in Python."[117] Here Mr. Hsu appears to be using the "CDR Replay" tool to

systematically discover and decode the data and location for "steering, ABS, and ESC,"

and then updating the Python code in CrashScan to reflect the decoded data.

51.16.   On May 5, 2020, Mr. Hsu writes "Got a 2005 Chevrolet Impala from AmFam.

VPW replay did not work as CDR rejected the response to PID 0x2D. Checked the raw

data and the module gave a positive response with all 0s. Typically, for this PID, the

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[115] CS00510290.
[116] CS00514210.
[117] CS00510312.

number of bytes in the response would be 2 bytes, but this module gave out 6 bytes of

0x00s. Modified the raw JSON data so that each response contains the correct number

of bytes, and CDR generated a 'no data' report. Modified the GM processing code to

check for pre-crash data if delta-V is 0."[118] The "CDR Replay" tool was used to

troubleshoot, verify, and ultimately improve the code in the CrashScan tool for

processing GM vehicles.

51.17.   On May 6, 2020, Mr. Hsu writes "Got a 2016 Audi A5 scan from Recon

Engineering. CDR showed one event but all data values were invalid. The engineer had

the CDR and his report said the same thing. Checked the raw data bytes and saw they

were all 0xFEs. Made 0xFE in addition to 0xFF to be invalid in the processing code.

The code will produce a 'no crash data' report."[119] The "CDR Replay" tool and Bosch

CDR Software reports were used to improve the code and reports of Respondent's

CrashScan software.

51.18.   On May 8, 2020, Mr. Hsu's invoices reflect starting work on CDR Version 19.4

and Subaru decoding, writing "Downloaded and installed CDR version 19.4. Used a

2017 Subaru Crosstrek VIN with data from the Stark 2017 Subaru Outback. The CDR

ran the same process, which is kind of expected as the first thing it asked for was the

module ID. Based on the module ID, it determines which process to run…"[120] Mr. Hsu

also writes "Added new vehicles, supported regions, and cable numbers for the new

entries in CDR version 19.4 Got the first scan done by Theuns so now we have a module

ID to use with the CDR. When that module ID, the CDR started sending out different

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[118] CS00510313.
[119] CS00510314.
[120] CS00510315.

PIDs, although the security access algorithm appears to be the same. Created a special version of the Subaru process that only gets triggered for Theuns' VIN. This version would ask for supported PIDs under 0x10, 0x20, 0x21, 0x22, and 0x24. Got the second scan back from Theuns. However, during replay, CDR wanted a PID that the app did not ask, meaning it was likely that the PID was unsupported. Made a all PIDs version JSON file for this special Subaru process, where it would ask the car 22 {SID} XX, with XX going from 00 to FF. The total requests would be around 1280."[121] Here Mr. Hsu appears to be using the "CDR Replay" tool and the version 19.4 of the Bosch CDR Software to attempt to discover, determine values for, and ultimately support Subaru vehicles in Respondent's CrashScan software. The code for the CrashScan software was updated and improved based on this testing.

51.19.   On May 10, 2020, Mr. Hsu writes "Checked CDR version 19.4 for new Toyota part numbers. Wrote the 21 new part numbers into the database table."[122] The new Toyota part numbers were extracted from the Bosch CDR Software, and used to improve the database for Respondent's CrashScan software.

51.20.   On May 12, 2020, Mr. Hsu writes "Got a 2012 Dodge Grand Caravan scan that had some weird decoding issue. Did a CDR replay and the report came out clean. Checked the Python source code and corrected an error in the delta-V calculation code. With the correction, the code recognized the delta-V array was all 0xFFs and thus the module was actually empty. Released the report."[123] The "CDR Replay" tool was used to find and correct errors in Respondent's CrashScan software. Also on May 12, Mr.

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[121] CS00510316.
[122] CS00510316.
[123] CS00510318.

Hsu writes "Replayed and checked a 2014 Toyota Prius scan. The EDR portion was okay, but there were two DTCs with unknown definition. Looked up on Google and added the definition to the lookup text file."[124] The "CDR Replay" tool was used to find and correct errors in Respondent's CrashScan software.

51.21.   On May 15, 2020, Mr. Hsu writes "Got a 2015 Subaru Outback scan with crash data. This is the newer cable that I had already decoded and not the batch recently added in version 19.4. Checked the report and corrected an error in the processing code."[125] At minimum the Bosch CDR Report was used to validate and correct errors in the code for Respondent's CrashScan software. Also on May 15, 2020, Mr. Hsu writes "Checked a 2018 Ford Focus scanned by Theuns. The delta-V was 63 km/h and was confirmed by the CDR after using a North American VIN. ABS was engaged but pre-crash ABS had not been decoded yet. Added pre-crash ABS to the code."[126] The "CDR Replay" tool was used to validate data and improve the code for Respondent's CrashScan software.

52.   The review above was only of a handful (five) of invoices covering about 10 weeks of work by Mr. Hsu. It is clear from these invoices that the "CDR Replay" tool and the Bosch CDR Software Reports were used often and repeatedly to improve Respondent's own CrashScan Software, and the efforts as described in emails and invoices could qualify as reverse engineering.

53.   Mr. Hsu further testified that he has continued to use CDR Replay to verify reports produced by Respondent's software in 2023, and has utilized the same process of using CDR Replay even for 2023 model year vehicles.[127]

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[124] CS00510318.
[125] CS00510321.
[126] CS00510321.
[127] Hsu Transcript, pages 190:4 - 192:11.

IX.   CONCLUSION

54.   Based on my review and analysis, as well as my education training and experience, I have reached with a reasonable degree of professional certainly the following conclusions, as further described in the above report:

54.1.   Respondent's "CDR Replay" tool is based on and incorporates Bosch's CDR Software;

54.2.   Respondent's "CDR Replay" tool runs the Bosch CDR software without a connection to a real car;

54.3.   Bosch CDR Software versions that were installed on the Laptop appear to be outside of the time periods described by Respondent's software licenses; and

54.4.   Respondent's CrashScan App provides similar crash scan and reporting functionality as the Bosch CDR Software, and leverages Respondent's "CDR Replay" tool incorporating the Bosch CDR Software to continually verify, correct, improve and refine its output.

Respectfully submitted,

Date: November 6, 2023

Joshua HelfinSiegel

Attachment 1

Mr. HelfinSiegel has more than sixteen years of experience as an IT professional, including Systems Administration, Security, and Technical Support experience. Since 2011, he has worked as a litigation consultant for DisputeSoft. He is responsible for all of the environments, data, and systems in use at DisputeSoft, including data security and Domain management. He has extensive experience in dealing with the complex issues surrounding large software implementation failures, copyright infringement and trade secret misappropriation, and digital forensics. He has worked on a variety of software failure, patent, copyright, and digital forensics cases and has performed numerous analyses of: Software Requirements, Design, Development, Testing, Defects, Software Quality, and Project Schedules. He has performed the AFC test, as well as analyzed various code sets for evidence of copying to support infringement or misappropriation claims. He has analyzed digital forensic evidence, including searches for evidence inappropriate copying of confidential information, and evidence of deletion of said information. He specializes in failed software implementations; intellectual property; databases and data analytics; computer networking, hardware, and infrastructure; and digital forensics. Mr. HelfinSiegel is an EnCase certified forensic examiner.

Prior to starting at DisputeSoft, Mr. HelfinSiegel worked as the IT Manager for a property management company, TM Associates Management. There he served as the sole Systems Administrator, IT Director, and IT Support point of contact for a company of over 150 distributed locations and over 100 remote and 20 centralized employees. He was responsible for all of the environments, data, and systems in use at the company, including data security and Domain management. Responsibilities also included the installation and maintenance of several antivirus and malware protection software, malware and virus removal for over 100 remote sites, protection of an in-house network against internet threats and vulnerabilities, and hardening servers against potential points of attack.

DISPUTESOFT EXPERIENCE

Copyright Infringement and Trade Secret Misappropriation Disputes

TruLogic v. GE Aviation (2023)
In this intellectual property case involving alleged breach of End User License Agreement ("EULA") related to creation of derivative works in the aviation industry, assisted counsel with analyzing source code and drafted an expert report and supplement to respond to opposing expert opinions related to Interactive Electronic Technical Manuals ("IETMs"), and to address quality and quantity of alleged copying. Anticipate providing deposition testimony and testifying at trial. Ongoing engagement.

Benchmark Technologies, Inc. v. Yuqiang Tu et al (2022)
In this alleged trade secret misappropriation case in the optical lithography industry, analyzed sets of source code for evidence of copying and misappropriation of trade secrets surrounding highly technical aspects of the lithography as embodied by source code. Ongoing engagement.

Trent P. Fisher Enters. v. SAS Automation, LLC (2022)
In this alleged copyright infringement and trade secret misappropriation case in the manufacturing and robotics industry, assisted counsel with responding to Plaintiff's expert report opinions, as well as in understanding the viral nature of the open-source GNU General Public License, Version 3 as applied to works at issue in this matter. Ongoing engagement.

[party names withheld] (2022 AAA Arbitration)
In this alleged infringement and breach of contract matter, assisted counsel in a computer and source code forensic audit, reviewing keywords search results and source code for indicia of reverse engineering and/or improper use of Plaintiff software. Filed Declaration to support counsel's motion to compel. Ongoing engagement.

Covetrus, Inc. and Veterinary Data Services, Inc. v. Actian Corporation (2022)
In this alleged copyright infringement and license violation matter in the veterinary industry, reviewed and responded to opinions in Plaintiff's expert report regarding copyrights; performed forensic computer analysis and cloud virtual system audits to search for indicia of the presence of installed software to compare against the allowed number of installs per software license. Provided expert report and deposition testimony. Ongoing engagement.

[party names withheld] (2021)
In this copyright infringement, trade secret, and patent infringement case in the banking industry, analyzed deposited copyright material as related to alleged trade secrets for evidence of disclosure of trade secrets in the registered work, as well as analysis related to whether the version of code contained in the copyright material appeared to be a true and accurate copy of what was represented as the registered work. Additionally, decompiled and disassembled android and iOS code for comparison against alleged trade secrets. Ongoing engagement.

Ubiquiti Networks v. Cambium Networks, et al. (2020)
In this copyright infringement and breach of contract case, engaged due to familiarity and expertise regarding source code analysis and the GPL license. Analyzed different registered versions of software programs for presence of open-source code protected by the GPL license to support counsel arguments regarding copyright infringement, breach of contract, and to determine which source code elements would be protectable but not affected by the copyleft nature of the GPL license. Conducted on-site source code review of opposing party's code to search for evidence of copying of the registered works.

Bethesda Softworks, LLC v. Behaviour Interactive, Inc. et al (2018)
In a copyright infringement and breach of contract case involving allegations that a software vendor had misappropriated plaintiff's source code in the development of a mobile video game built in C# and using the Unity engine, assisted counsel with restoring perforce source code repositories, extracting relevant source code and design documents, analyzing the source code and design documents for evidence of copying, and filtering of third-party and non-protectable portions of the code.

[party names withheld] (2017)
In this intellectual property case involving alleged theft of trade secrets related to databases and source code in the medical healthcare data industry, assisted counsel with drafting production requests, interrogatories, and directing production requests toward acquiring the materials needed for expert analysis with regard to trade secret misappropriation allegations in this case. Assisted counsel by drafting Declarations and Expert report regarding data flows within a legacy system to explain to the court how trade secret misappropriation would have occurred based on how the system was configured. Anticipating database analysis, audit log analysis, source code repository analysis, among other analyses after production has been made available. Ongoing engagement.

Arkeyo v. Cummins (2017)

In this intellectual property case, assisted counsel with analysis of source code, dlls, and compiled code to determine if trade secrets had been unintentionally disclosed. Provided a declaration to counsel detailing the importance of the Defendant producing its source code repository so that code and development could be reviewed and analyzed for evidence of copying from the Arkeyo software.

Atlantic Technology Enterprises, Inc. v. Lincoln Park Savings Bank & Abacus I.T. Inc. (2017)

In this intellectual property case, reviewed the document production and depositions to determine what material the Plaintiff claimed was its proprietary information. Reviewed Windows Server backups for proprietary information in order to determine if misappropriation occurred.

Cobra Systems, Inc. v. Unger et al. (2017)

In this intellectual property case, performed source code comparison and reviewed evidence related to both copyright infringement and trade secret misappropriation claims involving software used to print various labels, such as barcodes. Performed an Abstraction-Filtration-Comparison test between two sets of source code in order to demonstrate that the structure, sequence, and organization of the two software programs was substantially similar. Provided a declaration to counsel detailing the evidence of copying between two sets of source code. The declaration also covered the topic of proper clean room design when creating a new product, in order to avoid misappropriation of trade secrets or other protected intellectual property.

ECIMOS, LLC v. Carrier Corporation (2016)

In this intellectual property case, performed source code comparison and reviewed evidence related to both copyright infringement and trade secret misappropriation claims involving software and hardware used for quality testing air conditioning units, as well as what constituted a software API. Traveled to Collierville, TN to view software and hardware in action at the manufacturing plant. Provided a written Declaration to court regarding the difficulty of copying from the text-based source language to the graphics-based language of the accused product. Provided testimony in person to the same effect on September 1, 2017 at a Preliminary Injunction Hearing. Provided a written Declaration signed October 13, 2017 in support of Carrier's memorandum in opposition to Plaintiff's motion to reopen proof, detailing material issues with the opposing expert's report. Provided a written Expert report signed on October 30, 2017 containing affirmative opinions related to clean room design, database comparison and source code analysis, as well as detailing material issues with the opposing expert's report. Provided deposition testimony on January 11, 2018 related to all previously provided written testimony. Provided a Supplemental Expert Report, signed on April 30, 2018 containing affirmative opinions as well as rebutting the newest assertions from opposing expert, and detailing how to apply the Abstraction Filtration Comparison test with regard to the databases at issue in this case. Lastly, provided testimony on June 29, 2018 at jury trial reiterating points made in the Declarations as well as Expert reports and exhibits. Specifically provided testimony focused on database and software issues regarding copyrights and trade secrets, and the Abstraction Filtration Comparison test.

T&S Property Management v. Cinc (2016)

In this intellectual property case, performed source code comparisons between two sets of c-sharp source code and databases to determine if any literal copying had occurred between the programs. Reviewed the code to determine whether one software program was likely derived or reverse-engineered from a competing software program, as reverse-engineering was explicitly prohibited by software license.

QueTel: Consulting (2016)

Analyzed different versions of software programs for evidence of the presence of open-source code protected by the LGPL V 3.0 pursuant to a copyright registration and potential trade secret litigation.

Michael Mohr v. Science and Engineering Services, Inc., et al. (2014)

In this intellectual property case, performed extensive source code comparisons, as well as documentary review, towards determining whether literal copying of source code had occurred outside the scope of a licensing agreement. Interviewed several fact witnesses, drafted interrogatories and deposition questions, performed in-depth analysis related to low-level printer commands and the creation of labels for aircraft. Drafted expert report.

Prosuite Software Limited, et al. v. InfoKey Inc., et al. (2013)

In this intellectual property case performed a class-usage and function-call analysis to determine if any code from one source code set was called in new source code.

Planet Bingo, LLC and Melange Computer Services, Inc. v. VKGS, LLC, d/b/a Video King (2012)

In this software misappropriation case involving casino point-of-sale (POS) gaming software, restored server and client systems, and then performed comparison of plaintiff and defendant software, functionality and documentation to assist in determining whether defendant's software and functionality was substantially similar to and designed using plaintiffs' confidential information.

American Petroleum Institute (2011)

In this copyright infringement case against unknown individuals operating out of China, conducted an investigation to determine the identities of these individuals and determine the extent to which the plaintiff's materials had been pirated. Evaluated websites for potentially infringing content based on PDF standards and sale of copyrighted materials.

Certification Trendz, LTD. v. PassGuide.com et al. (2011)

In this copyright infringement and trademark misappropriation case against unknown individuals operating out of China, conducted an investigation to provide attribution of these individuals and determine the extent to which the plaintiff's materials had been pirated. Used domain tools and other IP address related utilities to find the names and IP addresses of likely culprits of the infringement.

InDyne, Inc. v. <u>Abacus Technology Corporation, et al.</u> (2011)
Performed web server log analysis and environment reconstruction on behalf of the defendant in this trade secret misappropriation case between NASA contractors. Performed forensic keyword search analyses and rebutted opposing expert's claims over infringing content. DisputeSoft demonstrated that the deposited material from the copyright registration of the misappropriated was actually a reconstruction of the original work through an analysis of the source code and the deposit materials on file with the U.S. Copyright Office.

<u>Nexus</u> v. Kroughly, Limesoft et al. (2011)
In this intellectual property case in the emissions monitoring industry, provided an Affidavit and testimony regarding the nature of compressed "tar.gz" files, restoring backups of source code repositories, and xml configuration settings in source code. Testimony provided at trial highlighted the steps and resources available to the Defendants to determine how to restore a backup of a source code repository to a new location. Testimony also discussed how xml configuration files could be used to validate or verify the origin of accompanying source code produced in the case. Forensic analysis work is ongoing as of 2018.

<u>The Studer Group, LLC.</u> v. The Cleveland Clinic Foundation (2011)
In this intellectual property case, worked closely with the client to acquire and differentiate source code repositories of interest for comparison of infringing code. Forensically acquired and compared source code from repositories and rebuilt the source code management system along with the repositories in question. Compared user login and commit date histories between code repositories to show a lack of cross-contamination between projects. Assisted counsel with deposition questions related to the projects and contract in the case.

IT Project Failures

DXC v. Optus (Consulting) (2021)
In this software failure case involving telco service provider software in the telecommunications industry, assisted counsel in understanding the strengths and weakness of their case based on defect ticket reports and other documentary evidence.

Blue Cross Blue Shield of California v. Health Plan Services (2021)
In this ongoing software failure case involving software in the healthcare and medical insurance industry, assisted in reviewing and responding to opposing expert analyses and findings related to industry standards and the ordinary standard of care. Additionally, assisted in providing examples of expert analyses that would ordinarily have been undertaken by opposing experts, but were not.

Cerner v. Fujitsu (2020)
In this alleged software failure case involving health care software, assisted in developing protocols and analyses for expert agreement to be employed during litigation related to defects and software quality.

Bibb County School District v. Dallemand, et al. (2018)
In this software failure case in the education industry, aided both parties as an independent technical expert with a narrow focus on identifying issues surrounding a production dispute. Engaged at the request of the judge in the matter to provide insight and help resolve the technical problems surrounding the software production.

Pennsylvania Department of Labor and Industry v. IBM (2017)
In this ongoing software failure case regarding a large-scale software modernization project, helped direct data preservation efforts, restoration and analysis of key systems, drafted target opinions and Expert report. Managed a large and complex data analysis effort, as well as all internal personnel throughout the process. Directed a robust and wide-ranging source code analysis strategy, ensuring each analysis employed had basis in applicable industry best practices and/or basis in usage during the engagement. Analyses included static code analyses of code quality for complexity, reliability, flexibility and maintainability compared against industry best practices. Analyses also included defect data analyses related to defect potentials, defect removal efficiency, and defect density against industry best practices. Analysis of test data included analysis of unit test script quality, and rate of test execution compared against rate of test exits to estimate a reasonable project completion date. Additionally, analyzed requirements, design, project management and project schedule delay, as well as verified and validated 3rd party reports and assessments during the project. Drafted expert report; reviewed and responded to multiple expert rebuttal reports in drafted surrebuttal report. Settled 2021.

Acumen v. ADS (2016)
In this software failure case regarding the modernization of a Configure-Price-Quote (CPQ) system, analyzed performance benchmarking data, statements of work, software and system requirements, emails and service contracts to determine if the system as delivered met or exceeded the performance requirements as represented by Acumen. Reviewed procedures followed by Acumen in regards to due diligence in vendor selection in the consulting process with ADS.

Federal Signal Technologies, LLC v. Texas Department of Transportation (2014)
In an administrative hearing regarding highway tolling system contract that was terminated for convenience, assisted in a percent-complete analysis of various deliverables specified in the contract. Linked the hardware architecture diagrams to purchased items based on invoices, emails, and the documentary record.

Mary Rutan Hospital v. NextGen Healthcare Information Systems, LLC (2014)
In this software failure case regarding a failed implementation of hospital management software, performed data analysis of defect data towards determining if contractual agreements for support had been met. Interviewed several fact witnesses, drafted interrogatories and deposition questions, reviewed production environment to perform validation testing. Restored ticketing systems for review and analysis. Drafted expert report.

AMC Technology, L.L.C. v. Cisco Systems, Inc. (2013)
In a breach of contract case involving software for connecting call center systems to third-party CRM software, reviewed documents, testimony, and source code to reach opinions regarding how effectively the defendants conveyed information to the plaintiff in a timely, accurate manner in adherence to standard industry practice. Analyzed a list of purported defects identified during performance testing to determine how many issues, if any, would have had a material impact on the defendant's ability to ship the software to customers. Drafted expert report.

Arc-Com Fabrics, Inc. v. Third Wave Business Systems, LLC (2013)
In a software project failure case involving the deployment of an SAP Business One system for use by a textiles manufacturer, assisted in drafting an expert report opining on issues of system instability, slow system performance, poor source code quality, and deviations from industry standard practices. Performed reconstruction of production system environments for validation testing.

CedarCrestone, Inc. v. Affiliated Computer Services, LLC, et al. (2013)
In a software project failure case involving a failed PeopleSoft upgrade, conducted data analyses of defects recorded in HPQC to determine if material defects in the PeopleSoft software developed by the plaintiff prohibited the project from reaching go-live on time. Performed analysis of defects found in later phases of testing that should not have passed initial Unit testing, had proper testing been performed.

American Orthodontics Corporation v. Epicor Software Corporation (2011)
In this software failure case performed reconstruction of the Epicor ordering system, database environment, and web portal. Assisted in developing a script to simulate large volume orders, then used the script to perform functional testing of said system to prove that orders were delayed and even lost by the software. Performed load-testing analysis to rebut claims that the problems were due to insufficient hardware.

Deluca Enterprises, Inc., et al. v. SAP America Inc., et al. (2011)
In a case alleging overselling and under delivering ERP software, conducted an analysis to determine degrees of similarity between two sets of ARIS business process models based on representations of an SAP integrator that allegedly had reference models applicable to 80 percent of their client's business processes. Rebuilt tape library system and catalog in order to review, analyze and restore relevant data from backup tapes.

<u>Toronto Community Housing Corporation</u> v. Information Systems and Services, Inc. (2011)
In this arbitration brought by a social housing authority against a software vendor before the American Arbitration Association, reconstructed the application environment and systems required for the extensive functional testing needed for this case. Developed and employed a functional testing matrix based on the project's contract and functional specifications, performed functional validation testing, and assisted in the preparation of expert report and hearing materials to establish that the defendant delivered software containing material defects and misrepresented its software's state of readiness during procurement.

GC Services Limited Partnership v. <u>Ontario Systems, LLC, et al</u>. (2010)
In this software project failure case, traveled to Houston, TX and performed forensic acquisition of data as well as extensive analysis and reconstruction of systems from the forensically acquired databases and images. Reconstructed the software environment from the ground up to perform functional testing of the claims in the original pleadings. Reviewed the underlying system architecture and assisted in the preparation of a report evidencing spoliation of the system by the plaintiff. Rebutted allegations of system instability and poor project management through extensive review of case documentation, deposition testimony, and project management standards.

<u>Hudec Dental Associates, Inc.</u> v. Multimedia Dental Systems, Inc. (2010)
Performed extensive analysis of system and audit logs between Dental Practice Management Systems at issue in a software failure case. DisputeSoft demonstrated that the software was materially defective, failed to conform to agreed-upon specifications, did not include promised functionality, contained significant security vulnerabilities that rendered it non-compliant with HIPAA privacy requirements, and was not incapable of supporting the business operations for which it was acquired. Rebutted allegations of ongoing system use past the date of contract termination through extensive audit log analysis and system testing.

Software Patent Infringement Disputes

Wapp Tech Limited Partnership Et Al v. Wells Fargo Bank, N.A. (Consulting) (2022)

In this alleged patent infringement case, assisted counsel by researching the Android device emulator from Android studio in understanding how it works by analyzing its underlying technologies, hardware, software, and networking emulation. Additionally, researched the potential origin of network latency and speed default values available in code as related to the pending patent litigation.

[Party names withheld] (Consulting) (2021)
In this potential patent infringement case in the medical device industry, reverse-engineered and analyzed reverse-engineered operating system for presence or absence of features from the patents at issue in the instant matter. Attempted to access and analyze hardware for presence of patented methods via TCP, UDP, and hardware debugging interfaces, such as JTAG, UART, and SWD.

Uniloc USA, Inc., et al. v. Activision Blizzard, Inc. (2013)
In this patent infringement case, installed, tested activation protocols, captured packet and web traffic for several different versions of antivirus and antimalware software. Assisted in the installation and testing on several different windows platforms in order to verify the process used for software activation.

Apple v. HTC Corporation (2010)
In this smartphone patent infringement litigation before the International Trade Commission, reviewed source code for mobile and desktop operating systems related to the patents at issue. Supported invalidity, non-infringement and lack of domestic industry contentions through research, code review and claim charts. Served as a consulting expert.

Computer Forensic Matters

ZL Technologies v. SplitByte (2023)
In this digital forensics, breach of contract, and intellectual property case in the software and data services industry, assisted with forensic analysis of computer systems and artifacts for evidence related to the claims in the pleadings.

Arconic Corp. and Howmet Aerospace Inc. v. Novelis Inc. and Novelis Corp. (2022)
In this trade secret misappropriation and breach of contract case in the aluminum industry, extracted and analyzed the metadata contained in court docket items to demonstrate that the "Author" metadata field does not establish the individual that created the contents of a given Microsoft Word document. Drafted and signed a Declaration to support counsel's successful opposition to a Motion to Recuse.

Deere & Company v. AGCO Corporation (Consulting) (2021)
In this digital forensics and alleged patent infringement case in the agriculture industry, examined numerous forensic images and artifacts to determine the most likely cause of a small number of allegedly confidential documents flowing from one company to the other.

[party names withheld] (2021)
In this digital forensics and trade secret case in the artificial intelligence and technology industry, assisted counsel in acquiring and processing a digital laptop image, scanning for deleted Windows and Linux files, and attempting recovery of deleted files related to alleged trade secret claims. Ongoing engagement.

HeliumCloud v. KWITU (2021)
In this digital forensics, copyright, and breach of contract case in the non-profit industry, assisted counsel in drafting discovery requests and determining which forensic evidence to acquire and preserve. Issued expert report and deposition testimony. Ongoing engagement.

[party names withheld] (2020)
In this digital forensics matter in the video games industry, developed and applied a forensic analysis methodology for investigating a user's usage activity with respect to specific games and the online store for an Xbox One video game console. Ongoing engagement.

Cumberland Forensic (2018)
Analyzed a hard drive for evidence of copying of protected company data to online file shares, and for usage of the Tor browser. Performed an on-site audit to ensure that protective measures put in place were sufficient to guard against future infractions by staff attempting to bypass company policy and security measures.

Edifice Forensic (2017)
Created a forensic image of a laptop. Searched for evidence of drive-wiping tools and recovery of deleted data.

Elalaily Forensic (2017)
Isolated emails sent or received within a certain date range in PST for production.

Thomas Forensic (2017)
Created a forensic image of a laptop and cell phone. Searched for evidence of drive-wiping tools and recovery of deleted email data. Isolated emails sent or received within a certain date range in PST for production.

Welsh Forensic (2017)
Created a forensic image of an android phone and provided text message and MMS analysis for the client in the form of a forensic report.

Emery Federal Credit Union: Forensic Imaging and Analysis (2016)
Imaged a RAID 10 email server and analyzed extracted Exchange server data. Restored data from a proprietary backup format for imaging and analysis; restored and imaged a virtual machine hard drive (VMDK) for inventory and analysis.

State v. [Minor – name withheld] (2016)
Analyzed evidence provided by the State of Maryland to determine if it could be concluded that emails were sent from Defendant to a school administrator. Filed an affidavit to support a motion *in limine* to prevent paper-printout evidence from being used to verify the sender of the email when better evidence was available and email is easily forged. Served as a testifying expert in court, but the case was dismissed in court just prior testimony due to State failing to meet its burden of proof.

State v. Kelvin Sewell (2016)
Created a forensic image from an iPhone 4 and provided text message and MMS analysis for the client in the form of a forensic report.

Elwood Staffing v. Sandler (2016)
Created a forensic image of a laptop computer and searched for evidence of file deletion, as well as searching for evidence that drive-wiping software had been run. Additionally, searched for evidence that company files and data were taken. Provided written forensics report of all findings to the client.

Patriot Metals v. K-fab (2016)
Analyzed windows event logs and IP addresses for evidence of unauthorized remote access to company systems and servers.

ATOS: Forensic Imaging (2016)
Contracted by ATOS to forensically acquire, image, and inventory twelve computers and one USB device. Provided completed acquisitions to ATOS.

Golden v. Gant (2015)
Reviewed three digital audio recording for metadata inconsistencies or other evidence of alteration or tampering.

In re: Vincent L. Abell (2014)
Forensically acquired and imaged a desktop computer hard drive pursuant to a litigation regarding bankruptcy.

Nabijohn v. ITS (NYS Department of Financial Services) (2014)
In this video forensics case performed frame-by-frame analysis of security system footage combined with motion data to conclude whether video files had been altered or footage could conceivably be missing. Drafted expert report.

Pacific Bioscience v. Nutra Luxe MD (2012)
Assisted as a neutral expert in forensic imagining, analysis, and e-discovery regarding emails from a MacBook. Forensically extracted emails from different sources and loaded into a Concordance database.

General Electric Company v. Mitsubishi Heavy Industries, LTD., et al. (2011)
Assisted in developing an electronic discovery application used to review terabytes of backup data and prepare secure reports for counsel without directly viewing confidential data. The application reduced electronic document review costs by orders of magnitude and countered opposing counsel's claims of undue burden to produce relevant documents. Created extensive test data sets designed to simulate the environment of an enterprise system unrolled from tape backups and perform load testing on the application.

General Electric Company, et al. v. Thomas Wilkins (2011)
In this patent infringement case traveled to Kansas City, MO for inspection and inventory of legacy tape collection. Rebuilt legacy tape drive library systems for data recovery and searches for certain keywords related to the patent and defendant.

Declarations, Affidavits, Reports, and Testimony

Arconic v. <u>Novelis</u> – <u> </u>United States District Court for the Western District of Pennsylvania; Case No. 2:17-cv-1434-JFC. Filed November 3, 2017.

> *Declaration:* Declaration signed January 31, 2022 detailing how "Author" and "Created" date metadata work within Microsoft Word documents, what those metadata establish, and demonstrating the variety of "Authors" listed on court filings in the instant matter.

<u>Arkeyo</u> v. Cummins – United States District Court for the Eastern District of Pennsylvania; Case No. 2:16-cv-04720 (ABB). Filed August 29, 2016.

> *Declaration:* Declaration signed April 4, 2017 detailing the importance of the production of the source code repository for expert review.

[party names withheld] (2022 AAA Arbitration).

> *Declaration:* Declaration signed September 19, 2022 in support of counsel motion to compel additional production.

<u>Benchmark Technologies, Inc</u>. v. Yuqiang Tu et al – United States District Court District of Massachusetts; Case No. 1:22-CV-10227-LTS. Filed February 10, 2022.

> *Expert Report:* Expert Report signed on October 7, 2022 containing affirmative opinions evidence of copying in source code.

<u>Cobra Systems, Inc</u>. v. Unger et al. – United States District Court Central District of California; Case No. 16CV00569-ODW-JEM. Filed March 28, 2016.

> *Declaration:* Declaration signed March 20, 2017 detailing the Abstraction Filtration Comparison test performed as well as evidence of copying between software programs.

Covetrus, Inc. and Veterinary Data Services, Inc. v. <u>Actian Corporation</u> – United States District Court for the District of Maine; Case No. 2:21-cv-00097-LEW. Filed April 6, 2021.

> *Expert Report:* Expert Report signed on June 24, 2022 containing affirmative opinions on comparisons of source code and copyright registrations, responses to Plaintiff's Expert opinions, as well as detailing audit findings.
>
> *Testimony:* Provided deposition testimony on July 1, 2022 on topics covered in Expert report related to code comparisons, copyright registration, and the systems audit.

ECIMOS, LLC v. <u>Carrier Corporation</u> - United States District Court Western District of Tennessee, Western Division; Case No. 2:15-cv-2776-JPM-cgc. Filed November 6, 2015.

> *Declaration:* Declaration signed December 22, 2016 in rebuttal to Plaintiff's claims, as well as detailing the challenges of comparing text-based source code to graphical source code.

Testimony: Testimony provided at a September 1, 2017 Preliminary Injunction Hearing reiterating points made in the Declaration, as well as touching on elements of proper clean room design and details of the source code review.

Declaration: Declaration signed October 13, 2017 in support of Carrier's memorandum in opposition to Plaintiff's motion to reopen proof, detailing material issues with the opposing expert's report.

Expert Report: Expert Report signed on October 30, 2017 containing affirmative opinions as well as detailing material issues with the opposing expert's report.

Testimony: Provided deposition testimony on January 11, 2018 on topics covered in Declarations and Expert report related to clean room design, database comparison and source code analysis.

Supplemental Expert Report: Expert Report signed on April 30, 2018 containing affirmative opinions as well as rebutting the newest assertions from opposing expert. Abstraction Filtration Comparison test included with regard to the databases at issue in this case.

Testimony: Testimony provided at June 29, 2018 jury trial reiterating points made in the Declarations as well as Expert reports and exhibits. Specific focus on database and software issues regarding copyrights and trade secrets, and the Abstraction Filtration Comparison test.

HeliumCloud v. <u>KWITU</u> – United States District Court for the District of Maryland; Case No. 8:2021cv01212. Filed May 17, 2021.

Expert Report: Expert Report signed March 14, 2022 detailing deficiencies in the production and preservation of evidence, as well as the analyses that would be performed on the evidence, had it been properly preserved and produced in the instant matter.

Testimony: Provided deposition testimony on October 20, 2022 on topics covered in Expert report related to deficiencies in the production and preservation of evidence.

<u>Nexus</u> v. Krougly, Limesoft et al. – Ontario Superior Court of Justice; Court File No. 3660/2011. Filed March 8, 2011.

Expert Report: Expert Report signed April, 6, 2022 detailing how source code repositories were connected to and used for software development on from two computers based on forensic evidence on the two computers.

*Affidavit***:** Affidavit signed February 15, 2017 detailing how to extract and restore data from an SVN repository, as well as the importance of specific xml files in validating the origin of produced source code.

Testimony: Testimony provided at a hearing on July 13, 2017 covering the topics explained in the Affidavit, as well as touching briefly on clean room design.

*Affidavit***:** Affidavit signed December 16, 2021 detailing the presence of forensic artifacts related to e-mail migration from Microsoft Outlook to Google Apps, as well as detailing forensic artifacts referencing to specific e-mail addresses of interest.

Trent P. Fisher Enters. v. <u>SAS Automation, LLC </u>– United States District Court Southern District of Ohio; Case No. 3:20-cv-216. Filed March 31, 2021.

Expert Report: Expert Report signed November 11, 2022 detailing how the GPL should apply to central issues in the matter, as well as responding to Plaintiff's expert report and opinions contained therein.

Testimony: Provided deposition testimony on January 31, 2023 on topics covered in Expert report related to responses to opposing expert's opinions, the GNU General Public License, version 3, and the software at issue in this case.

TruLogic, Inc. v. <u>General Electric Company through its GE Aviation Division </u>– Common Pleas Court of Greene County, Ohio General Division; Case No. 2020 CV 0464. Filed September 15, 2020.

Expert Report: Expert Report signed June 12, 2023 addressing quantity and quality of alleged copying, as well as responding to Plaintiff's expert report and opinions contained therein.

Supplemental Expert Report: Supplemental Expert Report signed July 20, 2023 addressing factual findings, screenshots, as well as addressing Plaintiff's expert second supplemental report.

Testimony: Provided deposition testimony on August 10, 2023 on topics covered in Expert report related to responses to opposing expert's opinions and the software at issue in this case.

State v. [<u>Minor – name withheld</u>] – Montgomery County, MD Circuit Court; Petition #06-J-16-050314. Filed October, 2016.

Affidavit: Affidavit signed November 14, 2016 detailing the steps one could take in order to authenticate that an email was sent from a specific device and received by the recipient, and that paper printouts, in lieu of any other qualifying information, were not sufficient to authenticate an email.

EDUCATION AND EMPLOYMENT HISTORY

Education

Bachelor of Arts, Computer Science
Certificate in Bioinformatics and Modeling
The Wesleyan University, Middletown, CT

Employment History

Testifying Expert, Manager and Forensic Examiner, DisputeSoft (Jan. 2011–Present)
Drafted Affidavits, Declarations, and Expert Reports to support counsel. Testified as an expert in areas related to software, copyright, and computer systems. Performed and is knowledgeable in the Abstraction Filtration Comparison test. Forensically acquired, rebuilt, and tested numerous system environments. Performed various analyses on data extracted from a variety of database types and systems. Drafted expert reports and aided in formulating expert witness opinions for cases. Performed root cause analyses related to system outages pursuant to SLAs and MSA requirements. Built and administered a domain from the ground up, including Active Directory, Group policy, VPN, telephony, wired and wireless networking, Disaster Recovery and backup strategy, antivirus and SharePoint solutions. Managed updates, backups and recovery for all server data and systems, as well as system security for an office of networked and computers. Managed all hardware capacity planning, implementation, maintenance and support, as well as supporting and maintaining software licenses and warranties. Certified as an EnCase Certified Examiner for computer forensics since October, 2012.

IT Manager and Systems Administrator, TM Associates Management, Inc (Oct. 2005-Jan. 2011)

Managed updates, backups, and recovery for all server data and systems. Maintained system security, Active Directory and domain services for an office network of computers as well as for over 150 remote locations, including protection against and removal of viruses and malware. Maintained critical system application servers in OS/400 as well as Windows environments. Provided system and application support to over 100 users for a custom-based property management software as well as Windows operating systems. Created and customized a number of Crystal Reports and administered the database for the proprietary software solution. Managed all hardware capacity planning, implementation, maintenance and support, as well as supporting and maintaining software licenses and warranties.

Certifications

EnCase Certified Examiner (since October 2012)

Programming Language and Database Familiarity

Java, C#, C, CPP, Objective-C/Swift, Python
MS-SQL, MySQL/MariaDB, Oracle, SQLite

Attachment 2

Materials relied upon include the items listed in the "Materials Considered" section of the Expert Report, footnoted citations, as well as the below, if not explicitly stated within the Expert Report.

3PP_0000256	CS00437682	CS00510285
3PP_0000260	CS00437684	CS00510286
3PP_0000269	CS00437687	CS00510287
BOSCH000082	CS00437691	CS00510288
BOSCH000105	CS00444978	CS00510289
BOSCH000923	CS00446031	CS00510290
BOSCH000924	CS00446035	CS00510310
BOSCH002655	CS00448843	CS00510312
BOSCH002795	CS00448845	CS00510313
BOSCH002827	CS00448949	CS00510314
CS00013052	CS00448951	CS00510315
CS00013984	CS00449590	CS00510316
CS00015676	CS00450468	CS00510318
CS00016315	CS00450471	CS00510321
CS00016681	CS00457484	CS00514207
CS00018013	CS00457490	CS00514210
CS00018014	CS00465053	CS00517300
CS00018016	CS00465392	CS00517424
CS00018019	CS00465393	CS00521578
CS00018020	CS00469075	CS00521635
CS00018832	CS00471345	CS00521694
CS00019390	CS00481806	CS00521696
CS00020037	CS00483405	CS00522552
CS00021283	CS00483416	CS00528869
CS00021441	CS00484086	CS00528880
CS00024812	CS00484345	CS00530170
CS00024814	CS00484347	CS00530586
CS00236930	CS00507284	CS00530588
CS00437680	CS00507293	CS00534553
CS00437681	CS00510281	CS00538850

Exhibit D

Date: Monday, June 10 2019 03:18 PM

Subject: Re: Colission Sciences - do you know them

From: Andreas (asDARTS) <andreas.huber@asdarts.com>

To: Rose Bill (AA-AS/PAO11) <Bill.Rose@us.bosch.com>;

Theoretically I agree with you, but do our customers know?
Also: They have a Bosch CDR Report on their Website.

I'm not sure about the reverse engineering stuff ;) From my past experience this is a huge gray area.

What I'm surprised is that they use almost the same logic and procedures like the Bosch CDR.

Mit freundlichen Grüßen / Kind regards

Andreas Huber
asDARTS Inh. Andreas Huber
On Jun 9, 2019, at 22:24, Rose Bill (AA-AS/PAO11) <Bill.Rose@us.bosch.com> wrote:

> Yes, they do not have agreements with OEMs. I believe they are using a Bluetooth device to connect between vehicle OBD through a server to CDR remotely.
>
> They could be reverse engineering which violates copyrights on Bosch end and the OEMs.
>
> We updated EULA in 19.0 to begin to address this situation.
>
> Not sure users want to use a system without OEM backing.
>
> Bill
>
>
> Sent from my iPhone
> On Jun 9, 2019, at 3:56 AM, Andreas (asDARTS) <Andreas.huber@asdarts.com> wrote:
>
>> Hello Bill
>>
>> Do you know them?
>> https://youtu.be/_UGpipBYnfw
>>
>> Greetings
>> Andreas

Exhibit E

Date:	Tuesday, February 18 2020 02:29 PM
Subject:	Are you aware of potential competitor - Collision Sciences??
From:	Ruthcon <ruthconsulting@comcast.net >
To:	Rose Bill (AA-AS/PAO11) <Bill.Rose@us.bosch.com >;
Attachments:	image001.jpg

I just became aware of this through my instructor team, I don't want to over-react – but it seems someone is claiming the ability to retrieve EDR data through a cell phone app.

I believed Bosch was insulated from competition by its agreements with manufacturers for proprietary decoder rings. I strongly doubt Collision Sciences could duplicate those agreements, you know how long it took you to negotiate them, so I would guess these guys are hackers – but my guess is they must be using Bosch reports to reverse engineer the decoder since you have both hex and interp.

Rick Ruth 313 910 5809

From: Jones, Tracie <tjones@rimkus.com>
Sent: Tuesday, February 18, 2020 5:52 AM
To: 'ruthconsulting@comcast.net' <ruthconsulting@comcast.net >; Andrew S Rich <andy@rich-llc.com>; bill@floridareconstruction.com; n7621r@gmail.com; wade.bartlett@gmail.com
Subject: Collision Sciences

https://www.collision-sciences.com/home.html

The above company is claiming to be able to retrieve EDR data using a cell phone and a generic Bluetooth OBD connector. Thoughts? I don't believe it because my understanding is Bosch is the only one to receive the proper decoding from the manufacturers. They have two sample reports which show analysis of data. That requires human interpretation so I am not believing the phone does this.

RIMKUS
CONSULTING GROUP, INC.

Tracie Eckstein Jones
Senior Consultant
Rimkus Consulting Group, Inc.
9125 Guilford Road, Suite 108
Columbia, MD 21045

Phone: 410-872-9000
Cell:443-615-5029
Fax: 410-872-9111
Email: tjones@rimkus.com
www.rimkus.com

Exhibit F

Date:	Thursday, September 10 2020 04:51 PM
Subject:	WG: Collision Science and Bosch CDR
From:	Dr. Heinz Burg <drb@ibb-engineering.org>
To:	Rose Bill (AA-AS/PAO11) <Bill.Rose@us.bosch.com>;
CC:	melanie.schneider@ibb-info.de; Dirk Christiaens <mail@dirkchristiaens.be>;
Attachments:	image011.jpg; image001.jpg; image002.jpg

Dear Bill,

again a problem with Collision Science. Have you any publication or official papers, because we could loose a lot of customers.

Thanks
Heinz
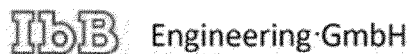
IbB Engineering·GmbH

Managing owner: Dr.-Ing. Heinz Burg
HQ: Brauneberger Straße 3
DE-54472 Burgen
Office: Veldenzer Straße 9
DE-54472 Burgen

Tel: 0049 6534 799 41 50
    Mobil: 0049 176 6032 79 30
E-Mail: drb@ibb-engineering.org

www.ibb-engineering.org

VAT: DE 291 888 815

Von: Simon Bahll <Simon.Bahll@ominsure.co.za>
Gesendet: Donnerstag, 10. September 2020 18:02
An: Dr. Heinz Burg <drb@ibb-info.de>; Melanie Schneider <melanie.schneider@ibb-info.de>; Dr. Heinz Burg <drb@ibb-engineering.org>
Betreff: Collision Science and Bosch CDR
Priorität: Hoch

Dear Melanie and Dr. Burg,

I trust all is well.

Do you perhaps have an update on this matter?

It has come to our attention that Collision Science is operating in various companies and we are unsure of the admissibility of the large segment of the market starting to utilize their tool.
We are looking to upgrade some of our CDR equipment however are worried that such is not feasible due to the pricing and such

Do you perhaps have any articles or recommendations that we can present to our division to assist in showing that Bosch is the

Your urgent advices would be greatly appreciated.

Kind regards,
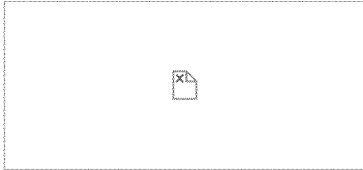
SIMON BAHLL

MANAGER: TECHNICAL INVESTIGATIONS UNIT | CLAIMS COE

T. +27 (0)11 374 2333 I **C.** +27 (0)74 586 3404
Old Mutual Insure Wanooka Place, St Andrews Road, Parktown, Head Office
Simon.Bahll@ominsure.co.za I **ominsure.co.za**
f. OldMutualInsure **t.** @OldMutualInsure **li.** old-mutual-insure

From: Simon Bahll <simon.bahll@ominsure.co.za >
Sent: Thursday, September 10, 2020 5:57 PM
To: Simon Bahll <Simon.Bahll@ominsure.co.za >
Subject: Re: RE: [SPAM] RE: IbB-CDR-00103, SW-Renewal (Collision Science)

From: "Simon Bahll" <Simon.Bahll@ominsure.co.za >
Date: 17/06/2020 at 19:03:08
To: "Melanie Schneider" <melanie.schneider@ibb- info.de>,"Dr. Heinz Burg" <drb@ibb-info.de>,"Dr. Heinz Burg" <drb@ibb-engineerin
Cc: "simonbahll" <simonbahll@gmail.com >
Subject: RE: RE: IbB-CDR-00103, SW-Renewal (Collision Science)

Dear Melanie and Dr. Burg,

As per my email earlier this year, we too are concerned.

- Mr. Theuns Botha worked for Old Mutual: iWyze until October last year.
- He left Old Mutual: iWyze to join Collision Science.
- I believe he is the South African partner for their interface and software.
- I have met with Theuns twice earlier this year as he gave a demonstration of the product – the cost of the product and service only in the USA, Canada, South Africa and worldwide.
- I am able to comment that they have far greater support on OEM's in Southern Africa and certainly will take over market additional support in South Africa includes: Subaru, Hyundai, Kia, Opel, GM, Ford, Mazda, BMW (certain models), Mercedes

We currently do not utilize Theuns Botha and 'Collision Science' as they have inadequate support and backing from reputable companie
There is certainly concern as to the working of such system –

- A generic OBD2 connector is connected to the vehicle

- It is then paired via Bluetooth to your cellphone and the 'Collision Science' application (on Google playstore)

- The vehicle information is inputted via the application

- Download commences

- The data is pushed through the application to Canadian servers

- The data is decrypted and usually within a few hours the data is returned in a report.

My unit and I have built many relationships to ensure we are accurate, fair and operate legally within our field. We are proud to
We cannot utilize 'Collision Science' as a supplier at this point.

I am happy to engage with the other users of Bosch CDR in South Africa to assist them in accessing (VIN Spoofing) some restricted

- We have been able to access Ford/Mazda/Opel/GM with CDR

Please contact me for any further information – a telecon would be ideal as we can cover much of our options to ensure the safety

Kind regards,
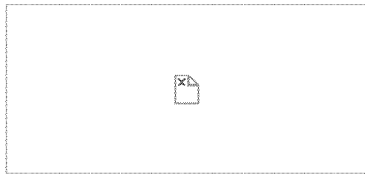
SIMON BAHLL
MANAGER: TECHNICAL INVESTIGATIONS UNIT | CLAIMS COE

T. +27 (0)11 374 2333 I C. +27 (0)74 586 3404
Old Mutual Insure Wanooka Place, St Andrews Road, Parktown, Head Office
Simon.Bahll@ominsure.co.za I **ominsure.co.za**
f. OldMutualInsure t. @OldMutualInsure Ii. old-mutual-insure

From: Melanie Schneider <melanie.schneider@ibb-info.de>
Sent: Wednesday, June 17, 2020 12:19 PM
To: Simon Bahll <Simon.Bahll@ominsure.co.za >
Cc: simonbahll <simonbahll@gmail.com >
Subject: WG: [SPAM] RE: IbB-CDR-00103, SW-Renewal

Dear Simon,

can we have your opinion for this occurrence.
Mr. Theunis Botha was in Canada and he told me to use the software of Collision Science.
I would like to know, what has happend with him, is he still working for the Old Mutual, are you cooperating with him etc.

Best greetings and thanks
Heinz

Von: Peco Trading <peak@africaonline.com.na >
Gesendet: Mittwoch, 17. Juni 2020 12:04

An: 'Melanie Schneider' <melanie.schneider@ibb-info.de>
Betreff: [SPAM] RE: IbB-CDR-00103, SW-Renewal

Dear Melanie

Can you refer us to somebody who can assist or maybe even ask
Bosch how this work.We have somebody new competing with the Bosch tool using only a cellphone app and a cheap dongle.They
company is based in South Africa working together with a Canadian company (Collision Science).We know they are using bosch
getting data from restricted vehicles in Europe and Africa.Try to look at their website.I think these guys are doing things illegal
And should be stopped otherwise they steel all our business.PSE assist.(www.collision-sciences.com)

Regards
Willie

From: Melanie Schneider [mailto:melanie.schneider@ibb-info.de]
Sent: Wednesday, 17 June 2020 9:44 AM
To: 'Peco Trading' <peak@africaonline.com.na>
Subject: AW: IbB-CDR-00103, SW-Renewal

Dear Mr. Sowden,

thank you for your agreement.
We have adjusted the data accordingly, see the annex.
Everything is done now.

Best regards
Melanie Schneider
Assistentin der Geschäftsführung
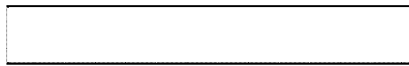
Managing owner: Dr.-Ing. Heinz Burg
HQ: Brauneberger Straße 3
DE-54472 Burgen
Office: Veldenzer Straße 9
DE-54472 Burgen

Tel: 0049 6534 799 41 50
    Mobil: 0049 176 6032 79 30
E-Mail: melanie.schneider@ibb-info.de

www.ibb-engineering.org

VAT: DE 291 888 815

Von: Peco Trading <peak@africaonline.com.na>
Gesendet: Dienstag, 16. Juni 2020 07:20
An: 'Melanie Schneider' <melanie.schneider@ibb-info.de>
Betreff: RE: IbB-CDR-00103, SW-Renewal

Dear Melanie

I agree to the content after reading it and understanding the content thereof.Payment will be done this week for the renewal.

Thank you
Regards
Willie Sowden

From: Melanie Schneider [mailto:melanie.schneider@ibb- info.de]
Sent: Monday, 15 June 2020 2:00 PM
To: 'Peco Trading' <peak@africaonline.com.na>
Subject: WG: IbB-CDR-00103, SW-Renewal

Dear Mr. Sowden,

please see below and the annex.
Please give us your agreement and return the Excel spreadsheet and the two data protection papers to us. Thank you.

Best regards
Melanie Schneider
Assistentin der Geschäftsführung
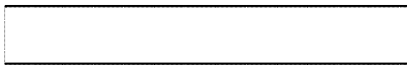
Managing owner: Dr.-Ing. Heinz Burg
HQ: Brauneberger Straße 3
DE-54472 Burgen
Office: Veldenzer Straße 9
DE-54472 Burgen

Tel: 0049 6534 799 41 50
    Mobil: 0049 176 6032 79 30
E-Mail: melanie.schneider@ibb-info.de

www.ibb-engineering.org

VAT: DE 291 888 815

Von: Melanie Schneider <melanie.schneider@ibb- info.de>
Gesendet: Freitag, 5. Juni 2020 14:58
An: 'peak@africaonline.com.na' <peak@africaonline.com.na>
Betreff: IbB-CDR-00103, SW-Renewal

Dear Mr. Sowden,

after checking the CDR customer account we found that your software license will expire on 07.06.2020.
You should have received the current license file 19.4 from BOSCH USA via email.
Would you like a license extension for another year (until 07.06.2021)? The cost of the update is € 899.00 net. We grant you a 5%

Furthermore, we may ask you to provide the attached Excel file with your data and to return it to us. Furthermore, we still need
Please read the attached data protection documents.
You simply give your consent by saying: I agree.
Please reply to this email right away. Thank you.

Best regards
Melanie Schneider
Assistentin der Geschäftsführung

IbB Engineering·GmbH

Managing owner: Dr.-Ing. Heinz Burg
HQ: Brauneberger Straße 3
DE-54472 Burgen
Office: Veldenzer Straße 9
DE-54472 Burgen

Tel: 0049 6534 799 41 50
    Mobil: 0049 176 6032 79 30
E-Mail: melanie.schneider@ibb-info.de

www.ibb-engineering.org

VAT: DE 291 888 815

EXHIBIT G

End User License Agreement (EULA)
For CDR Tool Software after Activation
Version: May 30, 2019

1. ACCEPTANCE OF TERMS
IMPORTANT: READ THIS ENTIRE EULA CAREFULLY. THIS IS A LEGAL DOCUMENT UNDER WHICH YOU HAVE
CERTAIN LEGAL RIGHTS AND OBLIGATIONS.

THIS EULA IS A LEGAL AGREEMENT BETWEEN YOU (EITHER AN INDIVIDUAL OR A COMPANY OR OTHER
ORGANIZATION) ("YOU" OR "LICENSEE")) AND BOSCH AUTOMOTIVE SERVICE SOLUTIONS INC.(REFERRED
TO HEREIN AS "BOSCH") CONCERNING YOUR ACCESS TO AND USE OF THE SOFTWARE PURCHASED
THROUGH A SUBSCRIPTION PURCHASE ("SOFTWARE"). FOR THE TERM SELECTED AT THE TIME OF
PURCHASE OR RENEWAL ("SUBSCRIPTION TERM").

THIS EULA REQUIRES BINDING ARBITRATION TO RESOLVE ANY DISPUTE OR CLAIM ARISING OUT OF OR
RELATING IN ANY WAY TO THE EULA OR YOUR ACCESS TO OR USE OF THE SOFTWARE, AND YOU AGREE
THAT ANY SUCH DISPUTE OR CLAIM WILL BE RESOLVED ONLY ON AN INDIVIDUAL BASIS AND NOT IN A
CLASS, CONSOLIDATED OR REPRESENTATIVE ACTION OR ARBITRATION. PLEASE REVIEW SECTION 11
CAREFULLY TO UNDERSTAND YOUR RIGHTS AND OBLIGATIONS WITH RESPECT TO THE RESOLUTION OF ANY
DISPUTE OR CLAIM ARISING OUT OF OR RELATING IN ANY WAY TO THIS EULA OR YOUR ACCESS TO OR USE
OF THE SOFTWARE.

PLEASE REVIEW THIS EULA CAREFULLY. BOSCH MAY, AT ITS DISCRETION, UPDATE THIS EULA AT ANY TIME
WITH OR WITHOUT NOTICE TO YOU. YOU ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTAND THIS
EULA, INCLUDING ANY UPDATES COMMUNICATED TO YOU. BY CLICKING ON THE "ACCEPT" BUTTON OR
DOWNLOADING, UPLOADING, INSTALLING, ACCESSING OR USING THE SOFTWARE IN ANY WAY, YOU AGREE
TO BE BOUND BY THE TERMS OF THIS EULA.

IF YOU DO NOT AGREE TO THE TERMS OF THIS EULA, DO NOT USE THE SOFTWARE AND PROMPTLY
REMOVE THE SOFTWARE PACKAGE FROM THE COMPUTER.

2. GRANT OF LICENSE AND RESTRICTIONS

   2.1. Your Authorized Use of the Software. Subject to your compliance with this EULA in all material
respects:

   2.1.1. If You are an individual person and you received an activation certificate ("Activation Certificate")
pursuant to a Bosch CDR Tool software Subscription from Bosch or an approved CDR Tool reseller or
distributor ("Subscription"), Bosch grants You a personal, limited, non-exclusive, non-transferable, non-
sublicensable, revocable license to use the Software, in object code form only, for the Purpose on the
Designated Equipment. "Designated Equipment" shall mean no more than one personal computer per
installation of the Software, such computer equipment to be identified by You as the equipment upon
which You will be the primary user and intend the Software to be used.

   2.1.2. If You are a company or any other type of organization, Bosch grants to You the right to designate
one individual person within Your organization to have the non-exclusive right to exercise the rights set
forth in Section 2.1.1.

   2.2. Delivery and Installation.

2.2.1. Provided you retain a valid Subscription issued by the Bosch CDR Software License Service (VLMS), You may implement activation of the Software only on the Designated Equipment provided that the Designated Equipment meets the minimum requirements according to Bosch's recommendations as outlined in the Related Materials. "Related Materials" shall mean all materials other than the Software furnished by Bosch and including, for example, Getting Started Guide, CDR Help File, instructional documentation, guides, and all permitted copies of such material made by Licensee. Connections to vehicles and or electronic control units (ECU) for the purposes of retrieving data must be done by directly connect the CDR tool to the vehicle or ECU using CDR tool cables and/or adaptors approved by Bosch. Any connections to a vehicle or ECU through additional hardware and software which is not part of the CDR tool is prohibited including, but not limited to, indirectly connecting the CDR tool through a wireless OBDII communications device, enabling remote connection to CDR tools over a server or internet server.

2.2.2. The Software which is installed on a second computer may be activated using a legitimate Activation Certificate from Bosch for a single license for back-up or alternate use by the Licensee. Both activations for a single license shall not be used concurrently or in the same manner as a second license. The second activation is intended for the Licensee to use when one computer is not in use.

2.2.3. Bosch shall provide an Activation Certificate to the Licensee after receipt of Licensee's payment for the agreed upon sales price of the Subscription. Activation Certificates and corresponding Software updates are available to the Licensee during the Subscription Term and will be delivered to the Licensee through the email system and made available via download from the internet respectively.

2.2.4. Changes of email address shall promptly be provided to Bosch or the authorized CDR Tool distributor or reseller your Subscription was purchased through.

2.3. Restrictions on Your Use of the Software. The Software or its components may be used only as expressly authorized in this EULA, and in no other way. You expressly agree NOT to:

2.3.1. In whole or in part, alter, copy, disassemble, decompile, reverse engineer, decode, or otherwise attempt to access or derive the source code or architectural framework of the Software;

2.3.2. Remove any copyright or proprietary notices from any part of the Software;

2.3.3. Unless otherwise agreed in writing by Bosch, use the Software as server software for making the Software available for multiple users (simultaneous use) over a network, install it on a server and allow users to access to the Software remotely for the purpose of multi-user access, or install the software on a device for use only by remote users;

2.3.4. Copy (other than once in the process of installing the Software or downloading updates, and once for back-up purposes), distribute, rent, lease, loan, assign, or sublicense all or any portion of the Software;

2.3.5. Modify in any way or prepare derivative works of the source or object code of the Software;

2.3.6. Provide a copy of the Software to anyone who is not bound by this EULA, or permit, allow, or authorize any other person or entity who is not bound by this EULA to use the Software;

2.3.7. Use or permit any other person to use the Software in any way that competes with Bosch's products or services, except as expressly permitted by applicable law;

2.3.8. Attempt to transfer Your rights under this EULA, or delegate Your obligations under this EULA, without Bosch's express prior written permission.

2.4. Except for the right of use pursuant to Section 2.1, Bosch reserves all rights for the Software, in particular exclusive right to reproduce, to distribute, to prepare derivative works therefrom and to publicly display the Software.

3. TERMS OF PAYMENT AND PRICES

3.1. Bosch reserves the right to increase the price for any future Subscriptions. Licensee may refuse to purchase a Subscription in the event of price increase. Any failure to renew your software Subscription or update the Software will have no effect on the rights granted to Licensee related to Software which have already been obtained legitimately either for free or paid for and installed on Designated Equipment.

4. WARRANTY

4.1. THE SOFTWARE AND OTHER INFORMATION DELIVERED TO YOU IS PROVIDED "AS IS" AND WITH ALL FAULTS. BOSCH DOES NOT WARRANT THE ACCURACY AND COMPLETENESS OF THE DATA. Therefore, in each individual case, it shall be assured by Licensee that the vehicle identification as well as the equipment used to read crash data from ECUs on a given vehicle corresponds to the data of the Software.

4.2. BOSCH DOES NOT WARRANT THAT THE SOFTWARE OR USE THEREOF WILL BE COMPATIBLE WITH EACH VEHICLE MODEL OR IN CONNECTION WITH OTHER PROGRAMS ON THE SAME COMPUTER. THE WARRANTIES SET FORTH IN THIS SECTION IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

4.3. THE REMEDIES SET FORTH IN THIS SECTION REPRESENT LICENSEE'S SOLE AND EXCLUSIVE REMEDIES FOR ANY BREACH OF WARRANTY BY BOSCH.

4.4. THIS INFORMATION SUPPLIED UNDER THIS EULA HAS BEEN COMPILED FOR USE ONLY BY VEHICLE MANUFACTURER PRODUCT EXPERTS, ENGINEERS AND PROFESSIONAL ACCIDENT INVESTIGATION & RECONSTRUCTION SPECIALISTS AND ASSUMES AN APPROPRIATE LEVEL OF SKILL AND COMPETENCE.

4.5. Licensee shall promptly inform Bosch of any defect in the Software and submit the appropriate information to enable the Bosch to correct the defect. Bosch shall, at its sole option; correct the defects discovered in the Software or deliver a new version of the Software.

4.6. In the event Bosch cannot detect the defect or the defect resulted from misuse or other circumstances that are beyond Bosch's control, Licensee shall bear any costs incurred in the correction of the defect. BOSCH SHALL NOT BE LIABLE FOR ANY DEFECTS IN THE EVENT THAT LICENSEE OR A THIRD PARTY MODIFIES THE SOFTWARE UNLESS LICENSEE PROVIDES EVIDENCE THAT THE CHANGES DID NOT INFLUENCE OR PRODUCE THE DEFECT.

5. LIABILITY

5.1. In no event shall Bosch be liable for damages arising out of or related to incorrect, incomplete or misinterpreted Software and/or data. Licensee shall take care to ensure that data supplied hereunder is applicable to the vehicle ECU, the system(s) and the vehicle the data was retrieved from.

5.2. IN NO EVENT SHALL BOSCH BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES ARISING FROM OR RELATED TO THE SOFTWARE OR USE THEREOF, BOSCH'S PERFORMANCE OR FAILURE TO PERFORM ANY OF ITS OBLIGATIONS HEREUNDER, WHETHER THE CLAIMS BE IN CONTRACT OR TORT, INCLUDING NEGLIGENCE OR STRICT LIABILITY. LICENSEE'S SOLE AND EXCLUSIVE REMEDY AFTER ACCEPTANCE OF THE SOFTWARE SHALL BE THE REMEDY AVAILABLE UNDER THE WARRANTY PROVISION.

5.3. Licensee shall appoint only qualified staff and use appropriate test equipment or tools to use the Software. Where applicable, Bosch recommends the use of appropriate test equipment and tools as specified in the vehicle manufacturer's issued service manuals.

5.4. Bosch shall not be responsible for any damage claim arising from Licensee's failure to comply with the provisions of this EULA.

6. TERM/ DURATION

6.1. The license term for this Software version remains in effect as long as You keep the installed Software on the Designated Equipment in compliance with this EULA. Upon expiration of the latest purchased Subscription Term, the license granted hereunder shall continue for this version of the Software only. The Software will continue to function without timing out; however, You will not be delivered or will not be granted access to production released updates or patches that are released to the public following expiration unless the You purchase a new Software Subscription for another license period.

6.2. You may terminate this EULA at any time by returning, destroying, erasing, and/or deleting all copies of the Software and corresponding Activation Certificate, in their entirety, that are in your custody or control.

6.3. This EULA shall automatically terminate immediately and without notice to You if: (a) You fail to comply with any of the terms and conditions of this EULA. In such event, You must return, destroy, erase, and/or delete all copies of the Software, in their entirety, that are in your custody or control; or (b) You purchase an activation certificate to enable additional functionality of the Software at which time the terms and conditions of the Activation EULA will supersede this EULA.

6.4. Bosch may have other legal rights upon such termination, which it reserves and does not waive.

6.5. Sections 2.4 and 8-12 of this EULA shall remain effective and binding upon You after termination of this EULA. The survival of such sections after termination of this EULA does not give You any right to use the Software in any way after such termination.

7. OPEN SOURCE SOFTWARE

7.1. The Software may include open source software components. Relevant information and details may be found at: c:\Program Files (x86)\Bosch\VTX-VCI.

8. CONFIDENTIALITY OF THE SOFTWARE

8.1. You acknowledge and agree that parts of the source code for the computer programs underlying the Software are a Bosch trade secret. You agree that any efforts by You to reverse engineer, decode decompile, disassemble or otherwise attempt to access or derive the source code or architectural framework of the Software, or any other efforts to learn the contents of such source code, data bases or resource files and applications could result in Your access to or knowledge or disclosure of such trade secrets without Bosch's permission, and that such access, knowledge, or disclosure could violate Bosch's trade secret rights and cause Bosch immediate and irreparable injury, entitling Bosch to obtain a preliminary and/or permanent injunction against You.

8.2. Pursuant to the Defend Trade Secrets Act of 2016, 18 USC Section 1833(b) (the "DTSA"), Recipient is on notice and acknowledges that, notwithstanding the foregoing or any other provision of this EULA:

8.2.1. An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that- (A) is made- (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

8.2.2. individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual- (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

9. DATA PRIVACY AND PROTECTION.

9.1. Licensee agrees that the users of the CDR tool and Software are obligated to be familiar with and follow applicable laws and regulations with respect to data privacy and general data protection regulations (e.g., US Driver Privacy Act of 2015, and the EU General Data Protection Regulation) related to the collection of data from vehicles, including but not limited to Event Data recorded as the result of a crash or active/passive safety system related events. Data collected from the vehicle and subsequently saved to a CDR file may contain Personally Identifiable Information (PII) including but not limited to Vehicle Identification Number (VIN), date & time the event data was recorded and, in some cases, Global Positioning System (GPS) data. Depending on the applicable local, regional, federal, or EU laws and regulations, compliance to regulations may require consent from the vehicle owner or sufficient legal authority may be required to access recorded data prior to retrieval of data from the vehicle using the CDR tool as well as compliance with the GDPR when processing and handling the data stored in the CDR file. Licensee also agrees that it is incumbent on the users of the CDR tool and Software to ensure compliance with applicable laws and regulations.

10. SOFTWARE AUDIT.

10.1. During the term of this EULA and at any time during the two (2) years thereafter, Bosch may audit Your use of the Software with advance written notice. You shall cooperate with the audit, including by providing access to any books, computers, records, or other information that relate or may relate to use of the Software. Such audit shall not unreasonably interfere with Your business activities. If Vendor discovers unauthorized use, reproduction, distribution, or other exploitation of the Software, You shall reimburse Bosch for the reasonable cost of the audit, or of the next audit in case of discovery without an audit, in addition to such other rights and remedies as Bosch may have.

11. JURISDICTION

11.1. All disputes involving this EULA, except actions arising under the copyright provision of Title 17 of the U.S. Code, shall be determined under the law of the State of Michigan and shall be submitted to an arbitrator appointed and operating under the Uniform Arbitration Act and the procedural rules of the American Arbitration Association (hereinafter "AAA"). The locations of the arbitration hearing will be Oakland County, Michigan or such other location as agreed to by the parties. Within thirty (30) days after either party has notified the other in writing that it is submitting a dispute to arbitration, one arbitrator shall be chosen under the then current Rules of the AAA pertaining to commercial disputes. Neither party shall be allowed to object to any arbitrator appointed by AAA. The ensuing arbitration shall be conducted according to the Rules of the AAA. The written decision of the arbitrator shall be final, binding and enforceable in any court of the United States or Canada with appropriate jurisdiction. In no case shall the arbitrator be authorized to award cost and damages otherwise prohibited herein. The application of the collision law as well as the Hague Conventions Relating to a Uniform Law on the International Sales of Goods, the United Nations Uniform Purchase Rights and other Conventions on Contracts for the International Sale of Goods shall be excluded.

12. MISCELLANEOUS

12.1. You shall not: (a) permit any third party to access or use the Software in violation of any U.S. law or regulation; or (b) export the Software or otherwise remove it from the United States except in compliance with all applicable U.S. laws and regulations. Without limiting the generality of the foregoing, Customer shall not permit any third party to access or use the Software in, or export it to, a country subject to a United States embargo

12.2. You agree to receive periodic email notices announcing CDR Tool updates, new activation certificates and software Subscription status notices designed to inform You of pending expiration of said Subscriptions. If You wish to opt-out of these such emails, You agree to contact their CDR Tool sales representative and request that Your account on the CDR software license server be deleted or suspended. You agree that deleted or suspended accounts will result in You no longer receiving Activation Certificates during your Subscription Term.

12.3. You shall uninstall and destroy, within one week after this EULA has terminated, the Software and corresponding Activation Certificates as well as all complete or partial copies thereof, whether altered or embedded in other programs, as well as any documentation, and shall provide a written confirmation thereof to the Bosch.

12.4. Modifications or supplements to this EULA - including this Section 12.4 shall be valid only when provided in writing and signed by both parties.

12.5. Should any provision of this EULA be invalid or become invalid, then such provision shall be severed from this EULA and the other provisions shall remain in full force and effect. Any invalid provision shall be replaced by a reasonable provision which is permissible under the law and which reflects the intent of the original provision.

12.6. Licensee agrees to obtain written permission from the owner or leasor of the Ford vehicles which the Licensed product is used to retrieve EDR data from, or the owner's legal representative; or written legal compulsion, in the form of a subpoena, warrant or court order, prior to downloading data from a Ford vehicle. Violation of this EULA will result in the termination of the Software license.